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THE BUILDER

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ARCHITECTURE BY ARCHITECTS

WE recently suggested that the first and obvious step towards reconstruction was to ensure that building of the future shall be devised and controlled by architects. The simplicity of that statement does not mean that we regard fulfilment of the suggestion as simple; we are well aware that the problem bristles with difficulties. There are, in fact, delicate situations to surmount both inside and outside the profession, and the internal difficulties may be the more acute of the two.

So far as the outside difficulty is concerned the need for a clear-cut reform has long been apparent. The original Registration Act was a first step, under which a class of architects was set aside as comprising competent practitioners. The Amending Act was a further step, establishing the fact that those who were not legally recognised as competent practitioners had no right to be called architects. Logically, the third step would establish the principle that those who were not architects by law ought not to be allowed to administer building work of a character normally undertaken by architects.

This plan of gradual progress was devised to suit peaceful times, in which a rather larger number of architects were operating than the system could comfortably accommodate. Minor building booms, alternating with periods of acute depression, made the lot of the average architect a continual struggle with adversity, and he was in poor condition to impose his better-informed views upon the public, even though the gospel he preached was gradually winning its way into the public conscience.

How different now is the prospect! We are on the threshold of times in which we shall be faced with the normal building programme, added to the rebuilding of what has been destroyed, the overtaking of three or more years of standstill, and the conversion of war-time buildings to the purposes of peace. To carry out this prodigious programme we shall have not more architects than we nearly succeeded in keeping in commission before the war but many less. There will be casualties, normal wastage, and many fewer five-year trained students during these war years. With such a shortage it is inevitable that the public will turn, for the filling of the gaps, to all and sundry who are capable of preparing plans, irrespective of record or real ability, unless it is made impossible for this course to be followed. If the suggestion were that the shortage of architects was merely an opportunity to improve their material comfort it would be at once discredited; but the fact that a further measure of control would be in the larger public interest suggests that time would not be wasted in showing the public the advantages of accepting a necessary restriction upon its liberties.

It is obvious, however, that a short Act of Parliament cannot ensure the beauty and fitness of New Britain. We must face the internal professional difficulties. These are that the profession, joined by law within a single register, is still divided within itself; that the largest body representing architects contains little more than half of those calling themselves thus; that of these, many have not passed through any severe test of ability; and that of those who have passed examinations, many did so so long ago that the conditions for which they were trained have changed out of recognition. Those facts represent some formidable obstacles in the path of architectural progress, and we must confess that we have no remedy to offer, no touchstone by which individual fitness can be ensured.

Are we then to assume that, because the law has created an imperfect instrument, nothing more may be done? Surely this would be the height of foolishness, and it is only common sense to recognise that every stage by which we narrow the angle within which incompetence can survive reduces the chances of blunder. The half-closed door will at least stem the flood of incompetent invaders who, through their very lack of knowledge, imagine architecture to be some precise diagram within the reach of any neatly operated ruling pen.

We must exercise a great deal of faith in this matter, and its basis will be the knowledge that in the upper strata of the profession there is a preponderance of those who are architects not only in law but in fact. We must not expect their influence to promote perfection, but we must hope that their example, combined with improved architectural education and a more enlightened public outlook, may not be without effect.

In such faith, and armed, if possible, with the decisive protection which architects have a duty to demand in the name of fine architecture, we should be set for a new and better era in the post-war age of Reconstruction. Without it, we are threatened with developments similar to those that occurred after the last great war, except that they will be magnified many times in proportion to the size of the building programme.

The State has already recognised by law that architecture is an occupation needing thorough training, and that without such training no man may call himself an exponent. The step from this to the next is obvious, and if it can be taken will open the door to better things.

NOTES AND NEWS

Mr. Hicks on Central Planning.

SPEAKING on post-war planning at a meeting of the National Housing and Town Planning Council in London on January 23, Mr. George Hicks, M.P., Parliamentary Secretary, Ministry of Works and Buildings, said that local authorities had not been idle. Some are formulating plans now and Lord Reith would like them to go ahead with all speed. They should plan with imagination and courage. If they found that the best plan would mean an over-spill of population, they should consider where it should go.

"There should not be dictation from Whitehall," added Mr. Hicks, "yet local authorities should be prepared to modify their ideas in the national interest. Moreover, co-operation among local authorities themselves is essential to planning. Consideration of needs of neighbours is the essence of planning. The Ministry of Works and Buildings, being a building authority, has no planning powers or ambitions. The Planning Department, a Central Planning Authority, will be separate. Final justification for such an authority to control use of land is that in this country only a limited quantity of land is available."

Eire Architects' Registration Bill.

THE Eire Architects' Registration Bill was described in the Irish Senate as "preposterously extravagant," and the Minister for Industry and Commerce told the Senate that the Government was not prepared at present to facilitate its enactment. The Minister said that a case could be made for such a Bill, but not at the present time, and when it was made it should be on the basis of public interest. The Vocational Commission was preparing a report which would be available during the year, and the Royal Institute of Architects of Ireland had submitted proposals to the Commission. "We should wait and see what observations the Commission will make on them, and what the general character of the report will be, before facilitating the enactment of legislation of this kind."

The second reading of the Bill was, however, carried by 26 votes to 21.

Lecture on R.I.B.A. Reconstruction Committee's Interim Reports.

THERE will be a lecture on Interim Reports Nos. 3 and 5 of the Reconstruction Committee at 6 p.m. on Tuesday, February 10, at the R.I.B.A. The subjects of these are: "Legislation Affecting Town and Country Planning," and "Building Structure."

Theatre Royal, Bristol.

AN anonymous Bristolian, it is announced, is prepared to buy the historic Theatre Royal, Bristol, which was to have been put up for auction on January 21. It will now be offered to the National Trust or handed over to the City.

Dating from 1766, this theatre, to quote Mr. Herbert Farjeon, "is the oldest theatre in England, having been built in the middle of the eighteenth century. . . . Its associations are historic and, what is more important, its interior, with side boxes, remains just as it was in the days when Mrs. Siddons and other great players of the past acted on its boards."

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Ministry of Works Resignations.

MR. HICKS announced in the House of Commons last week that the Director of Standardisation (Mr. T. S. Tait, F.R.I.B.A.) has temporarily resigned his position.

Major-General K. C. Appleyard, C.B.E., D.L., M.I.Mech.E., Director of Emergency Works, Ministry of Works and Buildings, has resigned that position as from February 28. Mr. J. M. Wilson has been appointed to succeed him.

Requisitioned Land Bill: I.A.A.S. Comment.

THE Incorporated Association of Architects and Surveyors have addressed the following letter to the Chancellor of the Exchequer:—

The Council of the Incorporated Association of Architects and Surveyors desire to take the opportunity afforded in sending you their Memorandum on the Landlord and Tenant (Requisitioned Land) Bill, 5 Geo. 6, to make an observation on the Compensation (Defence) Act, 1939, as follows, namely:—

It is considered that provision should be made by amendment of that Act or otherwise to ensure that a requisitionee, the requisitioning of whose premises continues for say more than three months after the cessation of hostilities (or some such defined happening), who had not already submitted a claim for compensation within the limitation of Section 11 of the said Act, would have a right to submit, within a limited time, a claim for compensation for such requisitioning for the period from the date of such happening aforesaid, to the date of any disrequisitioning, and that a requisitionee having, before the cessation of hostilities, submitted a valid claim for compensation for a requisitioning, would have a right to submit, within a limited time after the cessation of hostilities, one fresh claim for compensation for such requisitioning for the period from the date of such happening aforesaid to the date of any disrequisitioning.

It is felt that such a provision is necessary for affording fairness to requisitionees of premises, which, although having only limited value during war time, would have an increased value on the cessation of hostilities.

COMING EVENTS.

Saturday, January 31.

INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS. Visit to Ealing. Town Hall. 2.30 p.m.

Tuesday, February 3.

HOUSING CENTRE LUNCH. Mr. G. E. Payne on "Planning for Post-War Gloucestershire." 13, Suffolk-street, S.W. 1 p.m.

Wednesday, February 4.

ROYAL SOCIETY OF ARTS. Mr. H. G. Jenkins on "Fluorescent Lighting." Adelphi. 1.45 p.m.

Thursday, February 5.

A.A.S.T.A. Second Discussion on "Trade Union Problems of the Building Industry." 113, High Holborn, W.C.1. 6.15 p.m.

The Geffrye Museum.

"LIVING IN CITIES," an exhibition circulated for C.E.M.A. by the British Institute of Adult Education, will be on view at the Geffrye Museum, Kingsland-road, E.2, from Friday, January 30, to Saturday, February 14 inclusive. On January 30, at 3 p.m., Mr. E. Thurtle, M.P., will open the exhibition. At 2.30 p.m. on Saturday, February 7, Mr. J. M. Richards, A.R.I.B.A., will lecture. At 2.30 p.m., on Sundays February 1 and 8, films relative to the exhibition will be shown.

"Architecture Without Tears" Broadcast.

MR. W. G. NEWTON'S broadcast talk, "Architecture Without Tears," has been postponed from January 25 to February 8.

The Late C. J. Norton, F.R.I.B.A.

MR. CHARLES JOSEPH NORTON, F.R.I.B.A., County Architect for Norfolk, whose death is reported, had been a Norfolk County Council official for about 15 years, first coming to Norfolk as an architectural assistant in the County Surveyor's department. Mr. Norton designed the Dereham Isolation Hospital and Cromer Police Station. He was elected A.R.I.B.A. in 1922 and Fellow eleven years later.

IN 1917.

FROM *The Builder*, JANUARY 26.

MORE than ever, in reading of the enormous labour which falls on a Builders' Association in connection with trade disputes, are we struck with the waste of time, effort and energy which is involved, and it will be a great opportunity lost if the community, which is the ultimate loser by this waste, does not insist on a new and final settlement which will automatically free the productive power of the country from an intolerable drag. But such a settlement, once made, must be enforced upon both sides. . . . *From a comment in the L.M.B.A. "Monthly Letter."*

REDEVELOPMENT OF CITY CENTRES

PROFESSOR ABERCROMBIE'S VIEWS.

At a meeting organised by the Town and Country Planning Association, and held last Thursday at 224, Regent-street, W.1, the subject of discussion was the redevelopment of city centres. Professor Patrick Abercrombie, F.R.I.B.A., was the principal speaker, and the chair was occupied by Sir Cecil Weir, K.B.E.

Professor Abercrombie said it was a mistake to suppose that the redevelopment of our city centres had only become important because of damage done by air raids. All our old towns had grown up without any plan, the centres had gradually become more and more congested, and long before the war the fact was recognised that something must be done. Cities that had been bombed and those that had escaped alike needed to have their centres opened up: the present position was that those which had been attacked required more financial help for rebuilding, while the others had a greater difficulty in preparing their planning proposals. Wherever raids had destroyed considerable areas the way was now clear for designs which would have regard to architecture and the civic landscape. It should be remembered that if there were areas of narrow streets and insanitary dwellings to be cleared away there were also legacies from the past which ought to be preserved, and for this reason even if there were no other, no one pattern could be applied to all cities. Evacuation, voluntary and involuntary, had shown that industry and business were much more mobile than had been supposed: indeed, there had been more movement than ever before; and whenever the ending of the war brought more normal conditions, the question would arise as to how far business and industry would desire or be allowed to return to their former localities. Some trades might be permitted to return freely, others only if good cause could be shown, while there was a third class that should be kept out altogether. In any case the redevelopment of the city centre and the location of the disturbed industries should proceed according to a plan which should be predetermined, but at the same time flexible.

The people who were to live and work in the cities should be our first concern: in the past we had been far too much concerned with industrial prosperity for its own sake, and there had not been nearly enough regard to the health and comfort of human beings. Beauty, health, comfort and convenience had all been sacrificed, but they must have their appropriate place now in town planning schemes. It was necessary when reducing overcrowding not only to provide better houses, but also to provide open spaces: the number of persons per acre should not be increased because flats replaced cottages, but the reduction in the amount of land occupied by buildings should be regarded as an opportunity to provide more open spaces. Cottages were preferred to flats; they might be built with every convenience to be found in flats and have their own little gardens besides. Both with cottages and with flats there should be variety in size and type.

The size of modern cities imposed a great deal of travelling between home and work place, and much of our time was taken up by these dismal journeys, made all the worse at times by unwholesome air in the Tubes. We needed a new conception of urban roads; there should be some for nothing but through traffic, others for main traffic, and a third class solely for access to places of business and private houses. There was a strong case for the nationalisation of the railways and for making transport generally the servant of the community. Open spaces were necessary not only for health and recreation, but as an aid to community grouping because of the team games that could be played in them. In this matter the air raids had provided a possible help because some of the spaces that had been cleared might be converted into public gardens. The removal of industry from the centres of towns and the reorganisation of building should also help. Businesses and industries cleared out of the centres of large towns could be best provided for by the redevelopment of existing small towns and the building of entirely new small ones.

"There is one aspect of the technique of planning I would like to mention," concluded the speaker. "Just as in the country, or in a new town, we think of people as living together in communities, so we have got to recover the community feeling in the great city. . . . The smallest unit to plan for is the nursery school, the next the elementary school, which, grouped together, form the centre of your community. Open spaces and main roads must avoid cutting through these communities. The community idea should be our chief aim in the redevelopment of city centres."

"Question Time."

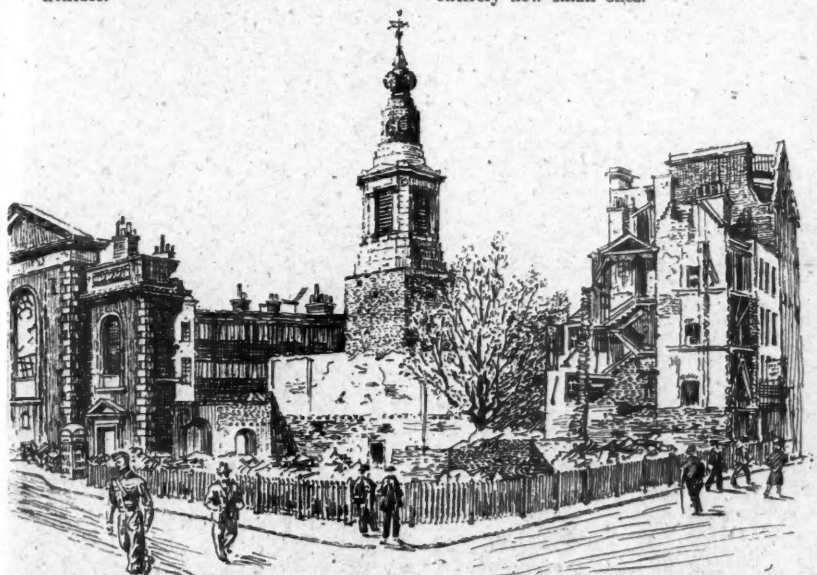
Questions and discussion followed the lecture.

A lady asked about open spaces in East London. She had in mind one of less than an acre in extent, but which had cost £16,000. Another questioner asked whether, in considering transport, town planners should not endeavour to take into consideration the probable developments of the next fifty years. Mr. Duncan asked who was to do the planning. Mr. Lafontaine inquired whether a building should be erected to have an unlimited life, or to last, say, fifteen or twenty years. A lady asked whether it would be possible to prevent a town being entirely dependent on some one industry. A young iconoclast thought sentiment a stumbling block to planning. For example, he thought that where an old Roman wall existed it should be pulled down and replaced by a modern building. Another questioner asked whether any of the recommendations of the Barlow Commission had been accepted by the Government.

Professor Abercrombie replied, saying that as to the cost of open spaces he hoped land values would fall from various causes, among others because of the nation deciding to take greater powers to deal with land than it had exercised in the past. The question as to transport made one ask how much of the plan could be carried out at once. We must plan far ahead, dividing up our programme into different periods, and carrying it out by stages. The destruction caused by the war made it possible to do more in the first period than would otherwise be the case. Reconstruction must come; let it come according to a plan. Looking ahead he thought air transport would develop in an entirely different way after the war, some much more easy way being sought and found to bring it right into our towns. As to who was to do the planning, it would be a mistake to hand this over to a single technician; it must be a co-operative effort. With regard to the length of life of buildings, we probably planned for this being far too long. Industrially and residentially, we needed to be able to remodel more easily than had been the case in the past. Sentiment was not to be despised. In the destruction that had taken place in Manchester a little old timber-built inn called the "Old Shambles" had escaped when all the modern buildings around it were destroyed. Clearing such an old building away might simplify planning, but it was the planner's task to preserve interesting and beautiful relics of the past and produce a fine scheme notwithstanding. (Hear, hear.) We all agreed that it was bad for a town to be dependent on one industry. The removal of industries from city centres would not spoil the countryside if it was properly done. He thought the building of new towns was the best solution, those new towns being kept comparatively small—say, from 50,000 to 60,000 population.

The Chairman said that but for the war the recommendations of the Barlow Commission would be practical politics to-day.

Sir Montagu Barlow proposed the vote of thanks, which was heartily accorded.



ST. ANNE'S, SOHO—THAT WAS! FROM A DRAWING BY R. BURNS DICK, F.R.I.B.A.

NURSES' HOME, NORTH STAFFS ROYAL INFIRMARY

MESSRS. WOOD, GOLDSTRAW AND YORATH, A. & L.R.I.B.A., ARCHITECTS.

THIS BLOCK IS A FOUR-STOREY BUILDING BUILT at the end of the existing Nurses' Home and linked up with same on two floors. Careful attention has been paid to the aspect so that all the rooms are served by maximum of sunshine.

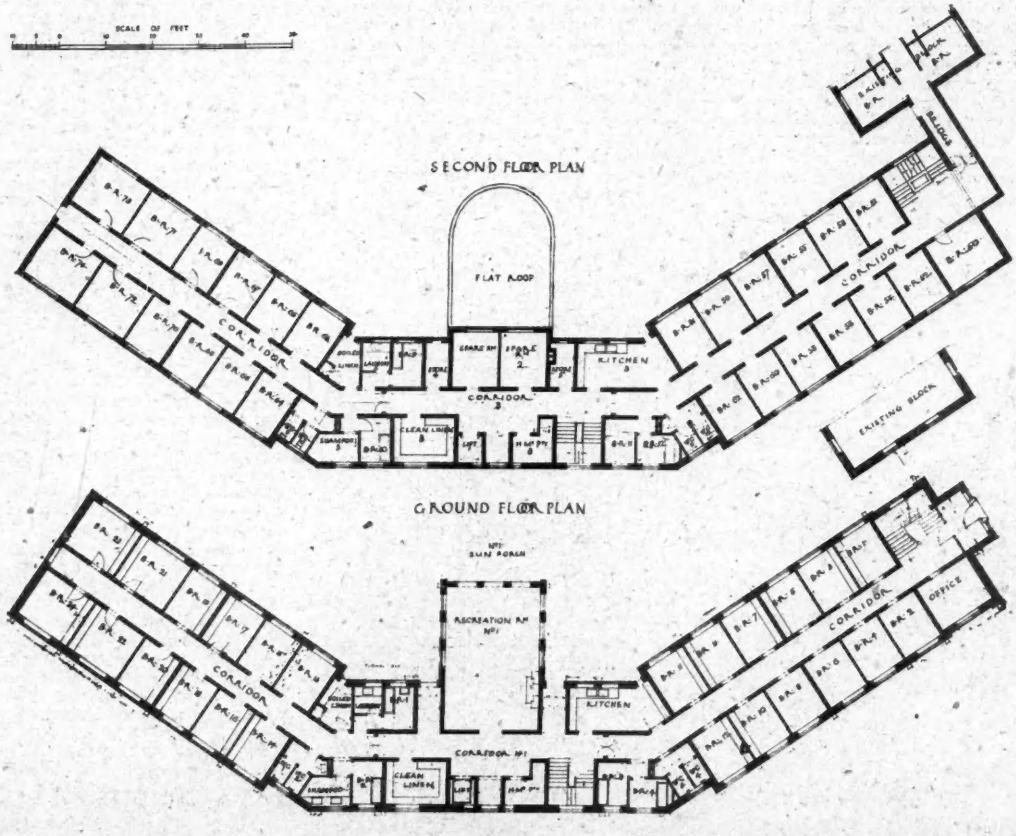
The building gives accommodation for 16 sisters and 83 nurses, together with two recreation-rooms and two rest-rooms. On each of the four floors are trunk and general stores, bathrooms, lavatories, shampoo-rooms and storage for clean and soiled linen. The reception office is provided at one end of the ground floor. Two staircases and an electric passenger lift serve the upper floors.

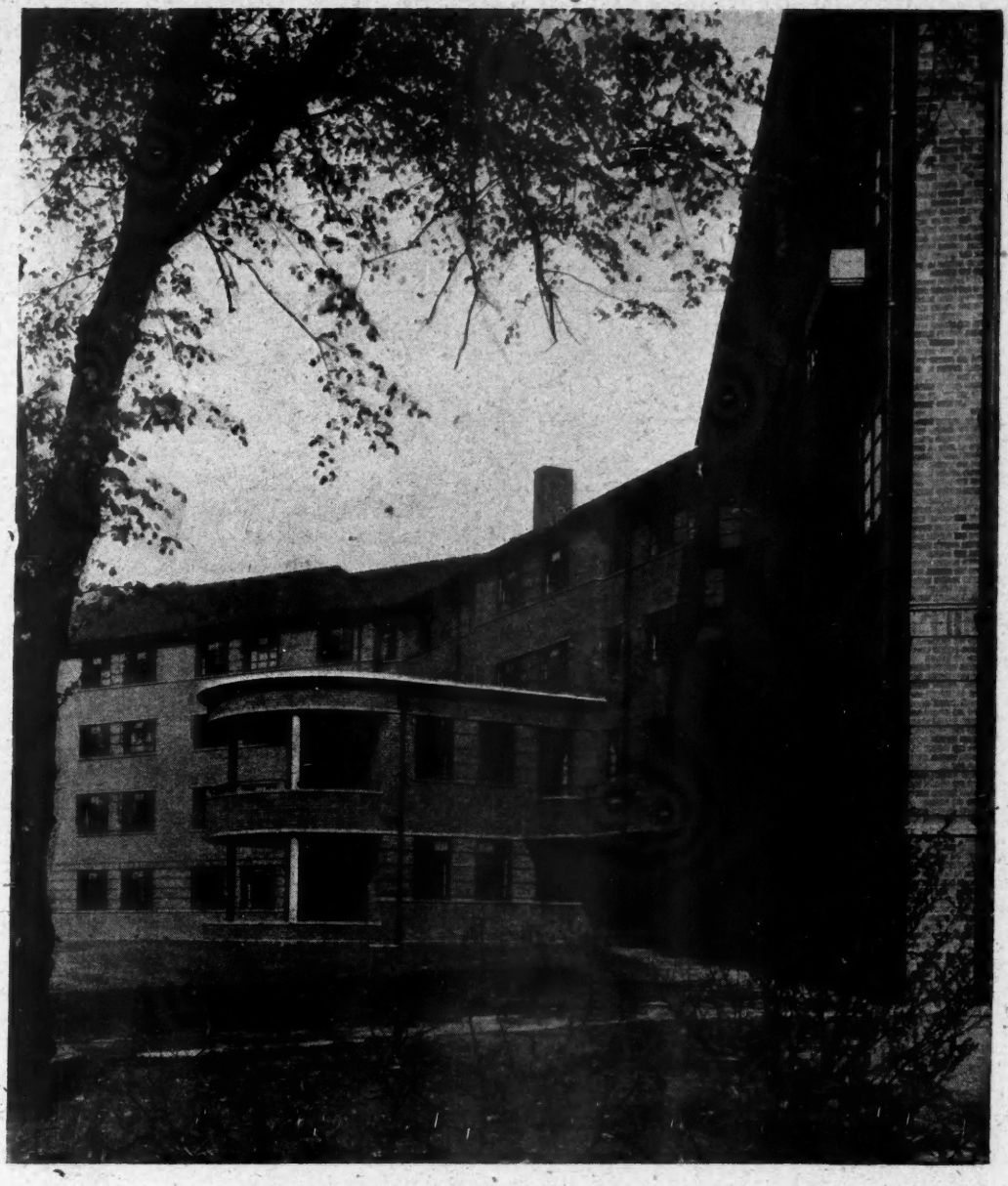
Each nurse has a separate bedroom, 11 ft. 6 in. by 9 ft., and the sisters have bed-sitting-rooms of slightly larger dimensions. Each room is complete with built-in fitment comprising wardrobe, tall-boy, bookshelves, soiled-linen receptacle, dressing-table and stool, lavatory basin and heated towel rail. The kitchens have built-in fitments with stainless steel sinks, gas hot plates and water boilers.

The buildings are constructed of soft plum-shade sand-faced brickwork with dark brown tiled roofs, and reinforced concrete floors and staircases, brick division walls being provided between the bedrooms giving soundproof conditions as far as possible. The fenestration of the building is punctuated by interposing at several points projecting reconstructed stone flower-boxes together with built-out flower-boxes on each of the central features, which has the effect of relieving the large expanse of brickwork.

The windows are of steel domestic type, having special hopper arrangement for night ventilation, and all the windows are linked up in horizontal moulded bands in pre-cast stone. Two steel fireproof exit staircases are provided at each end of the building for emergency facilities. The building has an installation of fire mains and hydrants on each floor. Staircases throughout are of concrete surmounted by wrought-iron balustrade finished in metallic green and surmounted by bronze handrails.

The doors throughout are of the flush type—the floors of the recreation-rooms being of oak strips, bedrooms of Columbian pine boards, and the corridors finished in linoleum. At the end of each recreation-room are three sets of french doors giving access to the balconies. Chutes are provided for soiled linen travelling the whole height of the building. The ground-floor corridor has been extended to provide an air-raid shelter which will accommodate the nurses from both this and the adjoining blocks. All the walls of kitchens, lavatories and bathrooms are finished in glazed tiles. There is also provided personal laundry on each floor for the nurses' requirements.





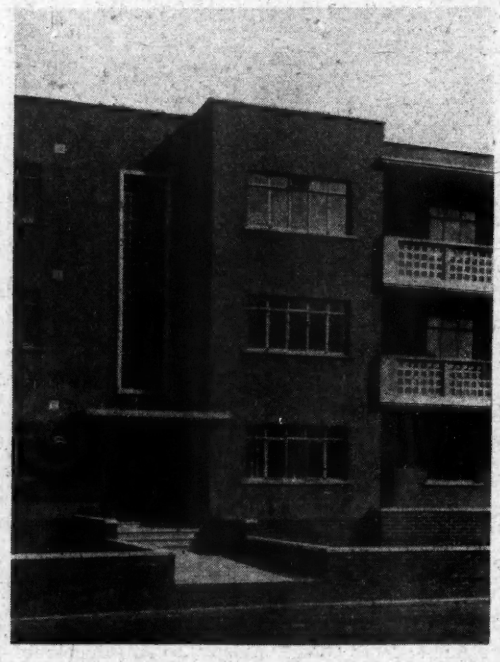
VIEW LOOKING TOWARDS ENTRANCES AND RECREATION ROOM.

The main contractors were Messrs. Sambrook Bros., Ltd., Hamil-road, Burslem; and sub-contractors and suppliers engaged were: Bricks, Hartshill Brick & Tile Co., Ltd., Hartshill; reinforcement, British Reinforced Concrete Engineering Co., Ltd., Stafford; stonework, Hilcrete, Ltd., Hilton, near Derby; steelwork, Heenan, Beddow & Sturmey, Ltd., Manchester; steel windows and doors, Henry Hope & Sons, Ltd., Smethwick; heating, Ashwell & Nesbit, Ltd., Birmingham, 4; electric, Tomlins, Ltd., Tunstall; lift, Evans Lifts, Ltd., Leicester; sanitary fittings and wall tiling, A. Wood & Co. (Longton), Ltd., Longton; floor tiling, E. Henshall & Co., Ltd., Stoke-on-Trent; linoleum, Bratt & Dyke, Ltd., Hanley; bedroom fitments, Turner & Sons, Burslem, and Boulds (Fenton) Ltd., Fenton; doors, Gliksten Doors, Ltd., Liverpool; fire-escape staircases, W. Durose & Sons, Tunstall; railings and balustrades, R. Evans & Son, Hanley; roofing tiles, Metallic Tile Co. (Rowley Bros.), Ltd., Chesterton; "Paropa" flat roofing, Frazzi, Ltd., London; ironmongery, F. P. Waltho, Ltd., Wolverhampton; incinerators, Stoke-on-Trent Gas Department, Etruria; fire appliances, British Hose & Appliance Co., Ltd., Manchester; and flooring (wood boards), J. A. Hewetson & Co., Ltd., Hull.

NURSES' HOME, NORTH STAFFS ROYAL INFIRMARY.

MESSRS. WOOD, GOLDSTRAW AND YORATH, A. & L.R.I.B.A., ARCHITECTS.

BLOCK OF 3-STOREYED FLATTED APARTMENTS



PENILEE HOUSING SCHEME, GLASGOW

MR. W. B. McNAB, DIRECTOR OF HOUSING.

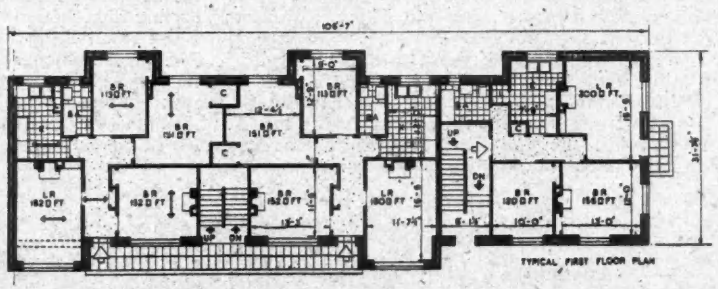
MR. J. H. FERRIE, L.R.I.B.A., A.R.I.A.S., CHIEF ARCHITECT.

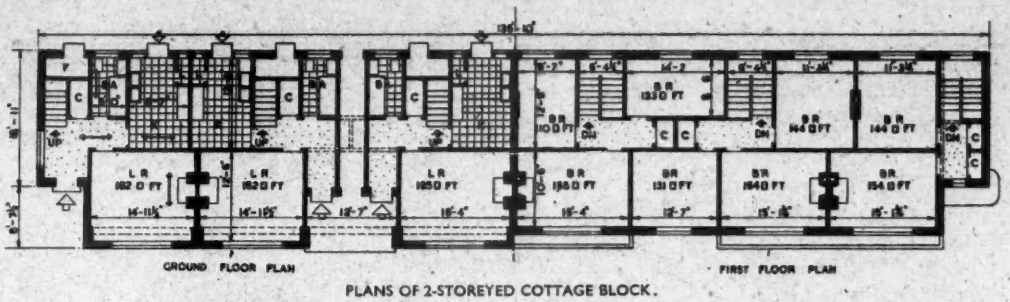
THE HOUSING SCHEME NOW PROCEEDING AT PENILEE, near Glasgow, is being erected by the Glasgow Corporation, and all the architectural work is under the direction of Mr. J. H. Ferrie, L.R.I.B.A., the Chief Architect, and of the Architectural Staff of the Housing Department. The Director of Housing is Mr. W. B. McNab. The scheme consists of some 1,500 dwellings, in three-storey tenements and two-storey blocks of apartment or cottage houses—the whole erected on a layout of 211 acres, which will include a shopping centre, two schools and community buildings.

The scheme is of particular interest because it is the most advanced of the larger war-time housing schemes, and because of the careful preparatory research which was undertaken before the scheme was initiated. Shortly after the outbreak of war, restrictions on the use of timber were imposed, and the Glasgow Corporation Housing Department, realising that new housing would have to be erected

Above : DETAIL OF ENTRANCE

Right : TYPICAL FIRST-FLOOR PLAN





PLANS OF 2-STOREYED COTTAGE BLOCK.

for war workers, immediately set up a Research Department to investigate methods of construction which would eliminate timber. Concrete was the obvious material, and so the Research Department examined many varieties of concrete floors, with a view to selecting the most suitable types. The questions of floor finish and roof finish were also studied, and the final scheme was the outcome of this research.

It was, of course, impossible without practical experience to determine which type of concrete floor was the most suitable, and for this reason, and in order to spread responsibility over a number of firms, no less than eight different types of concrete floors were incorporated in the scheme. The value of this large-scale experiment in the use of concrete for housing is considerable, but it is obvious that some time must elapse before final conclusions can be reached as to which is the best type of concrete floor. Throughout the scheme it has been the policy of the Housing Department to employ specialist firms to supply and erect concrete floors and roofs, but the remainder of the precast work, such as stairs, kerbs, window sills, lintels and parapet copings, has been executed by the Glasgow Corporation's own precast products works.

CONSTRUCTIONAL OUTLINE

Structure.

Foundations: Tenements—concrete raft. Terraced and flatted blocks—strip.

Walls: Tenements — 16-in. cavity brickwork, rendered. Terraced and flatted blocks—11½-in. cavity brickwork, rendered.

Partitions: 4½-in. brickwork and 4-in. foamed slag blocks.

Damp-proof Courses: Horizontal — "Ledeore." Vertical (round window openings)—slate.

Ground Floors: Tenements — "Myko" and "Rapid" concrete floors. Terraced and flatted blocks—"Myko," "Unicon" and "Siegwart" concrete floors.

First Floors and Roofs: Tenements—"Hy-rib" and "Rapid" concrete floors. Terraced and flatted blocks—"Girlingstone," "Invictus," "Unicon," "Siegwart," "Hy-rib" and "Springbank" concrete floors.

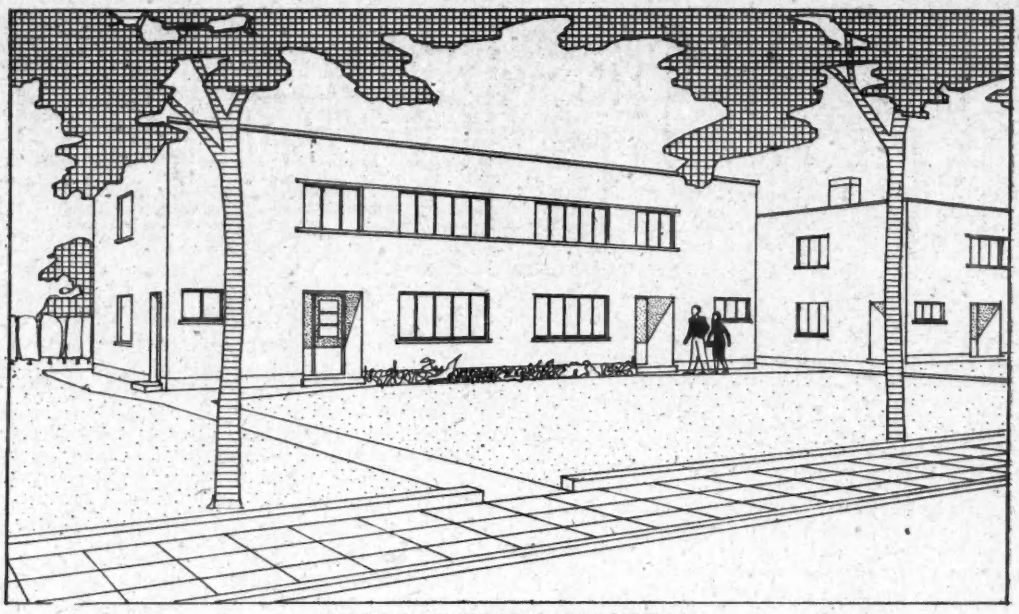
Staircases: Precast concrete (see constructional details).

Other Details.

Lintels: Precast concrete (see constructional details).

VIEW OF 2-STOREYED COTTAGE BLOCK.

PENILEE HOUSING SCHEME, GLASGOW



PERSPECTIVE OF 2-STOREYED FLATTED COTTAGES.

Door Frames: Wood (the only use made of this material).

Windows: Standard steel. Glass bricks with precast concrete surrounds for staircase windows of tenement blocks

Window Sills: External — precast concrete. Internal—quarry tiles.

Canopies: In situ concrete.

Balcony Balustrades: In situ concrete with precast panels.

Parapet Copings: Precast concrete.

Chimney Pots: Precast concrete.

Guttering and Rainwater Pipes: Cast iron.

FINISHES.

Floors: "Rub-en-tex," "Bituflor" (see constructional details).

Walls: Plaster.

Roofs: 4-in. average foamed slag concrete screed to falls. Three-ply bituminous felt with gravel finish.

Ceilings: Plaster. Plaster-board with skimming coat for "Myko" floor.

CONSTRUCTIONAL DETAILS

FLOORS AND ROOFS.—In the precast type of concrete floor, the method of ensuring firm bearing over the 4½-in. supporting wall varies. The "Siegwart" floor has continuity bars between the units. In the "Girlingstone" and "Rapid" floors a portion of the top of the beams is cut away and the space so formed is filled with concrete and continuity reinforcement. In the "Unicon" floor—which, incidentally, is reversed for upper floors—the rib projects beyond the flanges and overlaps; and in the "Myko," "Springbank" and "Invictus" floors the concrete joists are staggered.

It will be noted that these patent concrete floor and roof constructions are more costly than the normal timber construction. The average costs at date of tender (exclusive of plaster, composition floor finish and bituminous macadam roof covering, and subject to rising costs of wages and materials), were:—

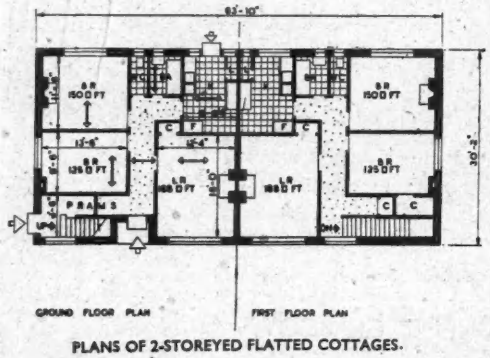
Ground floor, 14s. 1d. per sq. yd.
First floor, 15s. 7d. per sq. yd.
Roof (excluding insulating screed), 20s. 0½d. per sq. yd.

STAIRCASES.—The typical precast concrete stair unit has no skirting, since the staircase walls are cement rendered to a semi-smooth finish, the architect maintaining that the slight roughness of the finished wall will prevent childish scribbles, particularly in the case of the tenement communal staircases.

BALCONIES.—The sill beam and posts are cast *in situ*, grooved ready to receive the precast concrete panels. Reinforcement is left projecting from the posts to ensure a firm bond with the final *in situ* concrete top rail.

LINTELS.—These are standardised throughout the scheme and are designed in sections to reduce weight and facilitate handling. The joint between two lintels also provides secure fixing for the top of the steel window frames.

SERVICES.—As can be seen from the plan, the kitchen and bathroom in all apartment plans adjoin. This allows a very compact grouping of the services, especially water supply and plumbing stacks. To avoid a thick non-structural screed over the concrete floors, all internal hot- and cold-water service pipes are exposed and kept well away from the wall to ensure ease of access for repair and cleaning. There are no main cold-water storage tanks, since the cold-water feeds to the various fittings are taken straight off a rising main. Supply tanks for the hot-water system are also eliminated by the use of a combination cylinder. A generous range of kitchen fittings is provided, including a large sink and drainer, copper, cooker and boiler.



PLANS OF 2-STOREYED FLATTED COTTAGES.

PENILEE HOUSING SCHEME, GLASGOW

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Country Mansions.

To the Editor of *The Builder*.

Sir,—As it seems likely that taxation will compel more and more of the nobility to sell their estates, I am wondering whether such mansions, as they come into the market, could not be acquired and used as a chain of Charterhouses up and down the country, where more particularly the hardworking, unprivileged professional and vocational classes, if they wished, could spend their declining years in dignified and peaceful surroundings.

At first the tenants might have to contribute at a rate approximating the tariff of a non-luxury hotel, but if the idea found favour a system of insurance might be introduced whereby, for example, a doctor or an artist, by paying a premium for a number of years, would qualify for accommodation in such a house. An extension of the civil pensions might meet the cases of those who had been impoverished in the service of others. If certain houses were allocated to certain professions or arts, libraries, studios, music-rooms, laboratories, etc., could be provided so that the occupants could still pursue their interests and continue their work or research. Hesketh Hubbard.

E4, Albany, Piccadilly, W.1.

Timber Economy.

To the Editor of *The Builder*.

Sir,—I notice in your issue of January 16 you include an article giving recommendations in timber economy by the Ministry of Works and Buildings.

Under "Floors" I notice that they advise the exclusion of wood-block floors and advocate the use of non-magnesite blocks and a covering compound of rubber latex.

I would like to point out that this Association has lately been in touch with the Timber Control with a view to getting them to release short, narrow, home-grown hardwood strips for block floors, for which they admit there is no other demand. The reply received was that they would seriously consider the matter when the present "large stock" of manufactured floor blocks and imported hardwood block strip, which is not moving into consumption, was reduced.

The position, therefore, is that the Timber Control is endeavouring to get wood blocks into consumption, and the Ministry of Works and Buildings is endeavouring to stop them going into consumption. They advocate as an alternative products requiring oil and —of all things—rubber latex in their composition.

Further comment, I suggest, is superfluous.

F. W. Vigers,
President, Association of Flooring Contractors.

London, W.C.2.

Collection of Employees' Income Tax.

To the Editor of *The Builder*.

Sir,—In these days, when depleted builders' clerical staffs are working at full pressure filling up Government forms in order to obtain materials and to comply with labour requirements and War Damage Commission requests, the employers are now expected to be sub-offices for the Collector of Taxes, deducting tax from their employees' wages each week. This process requires a certain amount of supervision and extra work by the staff.

Would it be possible to persuade the Collector of Taxes to compensate the employer by paying him commission of, say, 2½ per cent. on tax collected, especially in view of the fact that the Collector of Taxes' staff will be saved a large amount of trouble in collecting overdue items of tax?

Pp. J. C. Rackham,
C. Aldridge, Manager.

Harrow Weald, Middlesex.

BOOK REVIEW

Elements of Quantity Surveying. By Arthur J. Willis, F.S.I. Second Edition (revised). London: Crosby Lockwood and Son, Ltd. Copies issued temporarily by the author from 3, Denbigh-road, West Ealing, W.13. Price 21s. net.

Quantity surveying has no parallel in any other profession, and in its combination of building and accountancy it is as unique as are the qualities and education needed to produce the complete surveyor. From its accountancy angle, the need for a commonly accepted rule of method, by which the smallest detail in a building can be carried forward from taking-off sheet to abstract, and thence to the bill, or its identity traced back from the latter to its place in the job, is so important and insistent that there can be few subjects in which the quality of a text-book becomes so important.

We have heard it said that the practice of quantity surveying has suffered in the past from indifferent text-books, but Mr. Willis's new edition of "Elements of Quantity Surveying" gives the impression that this danger is largely removed from the path of those who chose this one as a source of knowledge.

Mr. Willis very wisely confines himself to the elements of his subject, and does not cumber the book with a complete bill of some imaginary job which could never be more than one example of thousands of widely different cases which the surveyor in practice is bound to meet.

The specimen sheets reproduced in manuscript type are of special value, as bringing the subject more nearly to real conditions than any other type of print. The neatness of these pages may be somewhat "ideal" in their perfection, but at any rate it is an ideal at which to aim, and is a reasonable compromise between the legibility of print and the peculiar styles of calligraphy which may torture the mind of the abstracter.

Another admirable feature of the book is the true-to-scale reproduction of the detail drawings, upon which the student may lay his scale as upon drawings on which he will have to work in practice.

We are well satisfied that this is a text-book which fulfils a real need, and that those who rely upon it for guidance in their training in quantity surveying will find it of the greatest help. The price will not be grudged by those who wish only the highest standard of text-book.

SOCIETIES AND INSTITUTIONS

R.I.B.A.

Examinations Results.

The Intermediate Examination, November.

At the R.I.B.A. Intermediate Examination, held in November last, 95 candidates were examined, 32 passed and 63 were relegated. Successful candidates are :—

J. P. Archer.	T. A. Houston.
N. P. Astins.	M. H. Hughes.
K. V. Austin.	P. W. Hurworth.
D. J. Badham.	T. N. I'Anson.
R. E. Burstow.	A. G. Johnson.
P. A. Clarke.	O. Kent.
L. M. Cleverly.	M. Lockwood.
B. J. M. Evans.	W. Martin.
K. J. Freakley.	J. Olley.
N. L. Frith.	B. V. Pattenden.
G. G. Furness.	*D. Rainton.
J. A. Glen-Bott.	W. R. Solomon.
N. J. Goom.	P. S. Stott.
J. Gray.	J. R. Wallis.
J. H. Halman.	A. J. A. Wallwork.
J. R. Hobson.	G. F. H. Woodcock.

The Final Examination, December.

At the Final Examination, held in December, 55 candidates were examined and 26 passed, as follows :—

P. B. Arkcoll.	R. J. Harris.
C. L. Bird.	E. Heape.
Miss A. D. Boagey.	‡S. M. Husain.
‡J. B. Bone.	§G. McI. Keith.
‡M. R. Bordoli.	M. Lumsden.
E. G. Chandler (Distinction in Thesis).	†F. Moate.
†L. A. L. Cook.	M. S. Robinson (Distinction in Thesis).
‡E. W. Draper.	D. F. Scarles.
J. Dryburgh.	C. L. Shephard.
W. Garner.	§E. W. Talbot.
R. P. Gray.	R. Turley.
J. Griffiths.	Mrs. A. H. Wolfe.
V. Hall.	W. Zuns.

Special Final Examination, December.

At the Special Final Examination held in December, 25 candidates were examined, 19 passed, and 6 were relegated. Successful candidates are :—

T. J. Ahern.	A. Kaufman.
‡H. Appleton.	‡S. Leyshon.
H. Biel.	E. J. G. Light.
‡D. M. R. Blount.	W. R. Oram.
‡V. C. Bodicoat.	C. J. Quinn.
E. J. Cook.	O. Ulrik.
A. H. Farmer.	P. L. Vago.
‡C. Fyfe.	Mrs. M. Walter.
R. W. Hewison.	R. C. Witten.
E. D. Hill.	

Examination in Professional Practice.

At the Examination in Professional Practice for Students of Schools of Architecture recognised for exemption from the R.I.B.A. Final Examination, held in December, five candidates were examined, two passed and three were relegated. Successful candidates are :—

M. Eker. S. K. Jogiekar.

* Subject to completion of Testimonies of Study.
† Part I. only: subject to approval of remaining Testimonies of Study.
‡ Part I. only.
§ Subject to approval of Thesis.

R.I.A.I.

Annual General Meeting.

At the annual meeting of the Royal Institute of the Architects of Ireland in Dublin, Mr. Louis F. Giron was invested as President, and the following Council was elected: Messrs. E. D. Buckley, J. V. Downes, J. M. Fairweather, T. F. Inglis, H. H. Hill, A. E. Jones, S. Leonard, C. D. O'Toole, and T. F. Strahan.

The outgoing President, Mr. W. H. Howard Cooke, in his valedictory address, referred to the ability of architects to improvise methods of construction and thus enable works to proceed despite shortage of materials. Referring to the Registration Bill now before the Eire Senate, he doubted whether any benefit would accrue to architects in this or the next generation or to the Institute at any time. It would, however, help to obtain reciprocal recognition with the 33 other countries which had registration.

THE LOST ART OF FENESTRATION

2.

BY PERCY J. WALDRAM, F.S.I.

Cheerfulness in Natural Lighting.

THE lighting of walls and ceilings cannot, however, be neglected, in spite of the feeble contribution which they make to the useful illumination.

In addition to the proper lighting of pictures, light from walls and ceilings, diffusely reflected and counter reflected, sensibly modifies shadows and objectionably hard contrasts. It also appears to be the main source in the lighting of any interior of the element of cheerfulness, to which the useful lighting on the table plane may add little or nothing.

Dark walls, and to a greater extent dark ceilings, have a most depressing effect. Although this effect is primarily psychological, it can be very material, possibly sufficiently so to act physiologically as well and to cause eye strain. For example, the table plane lighting of the Law Courts in London is particularly good; but such is the depressing effect of the dark walls and such parts of the ceilings as are not occupied by skylights that many people find the Courts distinctly gloomy, and even regard them as badly lit.

The æsthetic value of cheerfulness, which is particularly characteristic of the lighting afforded by seventeenth and eighteenth-century windows, cannot be assessed in terms of the useful lighting on the table plane. It seems to depend largely upon the brightness or apparent brightness of the walls, especially of the upper parts, and still more upon light ceilings. Neither of these factors lends itself to easy measurement or to simple definition in terms of sky factors as is the case with regard to adequacy over the table plane. The brightness of different parts of the walls varies not only with the distance from the window, but also with the height above the floor; and in addition, the psychological effect of variations in brightness appears to vary also with different positions. A dark dado may be harmless or restful, but a dark frieze can be almost as depressing as a dark ceiling. Also wall brightness is not, like adequacy on the table plane, determined by the sky factors provided by the windows at any position, but is affected by reflection and counter reflection, especially between the upper parts of walls and the ceiling—a most intricate subject. The ceiling presents still more difficulty because it is lit wholly by reflected light, no sky above the horizon being visible from any part of it.

No data have been published of the source from which ceilings derive their illumination. They appear to be :—

(1) Light directly reflected from the ground outside. This is evident from the shadows of passing pedestrians, and from the strange, unnatural alteration of the customary lighting of rooms when the ground outside is covered with snow.

(2) Light directly reflected from tables, floors and other internal horizontal surfaces. This is, of course, enhanced by anything which improves the useful lighting.

(3) Light reflected from walls and other internal surfaces.

No information is available as to the relative proportions of the total illumination contributed by each of these factors, but it appears to be clear from observation of the relative depth of shadows that items (1) and (2) are relatively large as compared with item (3). If items (2) and (3) were the only material sources, it might be possible to correlate the illumination on the ceilings with the total volume of light from visible sky entering the windows; and, by applying the theory of the cube photometer, possibly to predetermine the ceiling brightness for different sizes of window and for different relations of width to height. The influence of item (1) is, however, far too large to be neglected. This is more or less indeterminate, and in the present state of our knowledge it is only possible to consider æsthetic values or cheerfulness, regarded as a factor in the lighting of rooms, by studying in general the conditions which improve or reduce it.

In any such study, the observer does not need to compare and consider many interiors before coming to the conclusion that low window heads mean those dark ceilings so depressingly suggestive of an imminent thunderstorm; whilst window heads taken up nearly to the ceiling make for light ceilings and markedly added cheerfulness. Any designer who aims at

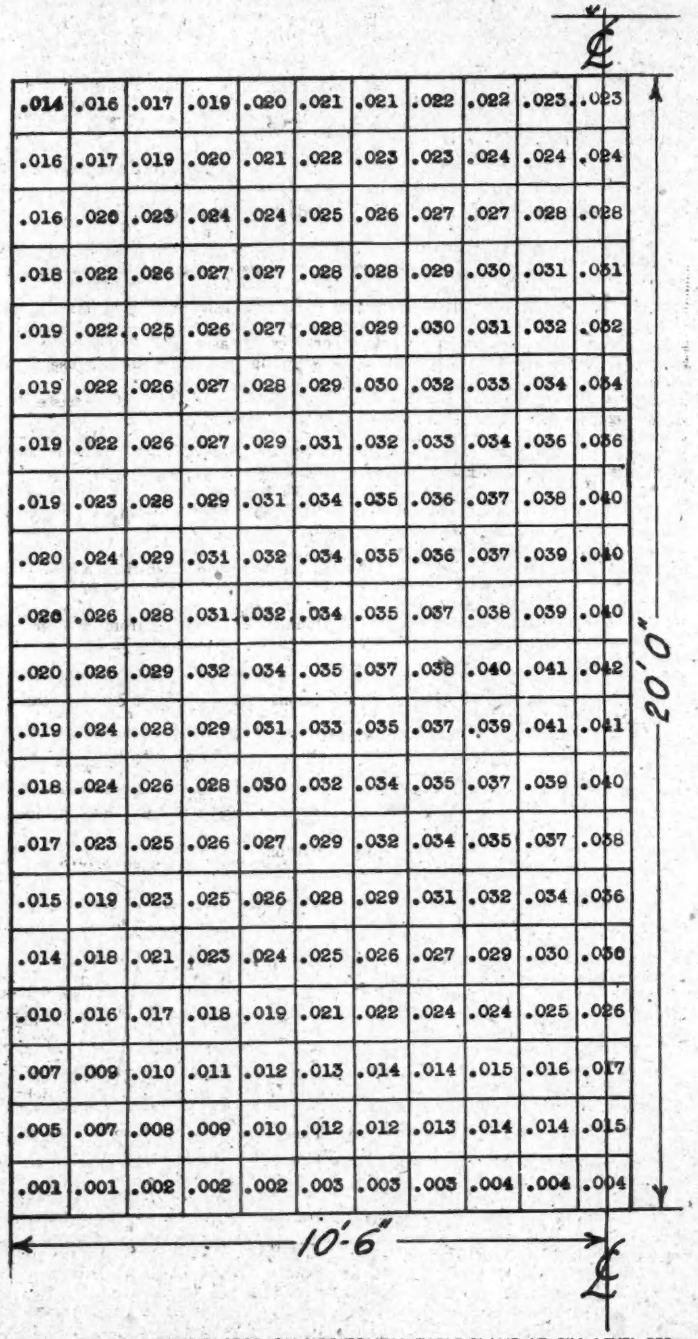


FIG. 3.—VALUES OF SKY FACTOR ON HORIZONTAL TABLE PLANE AT CILL LEVEL PER SQ. FT. OF UNOBSTRUCTED WINDOW 16 FT. DISTANT.

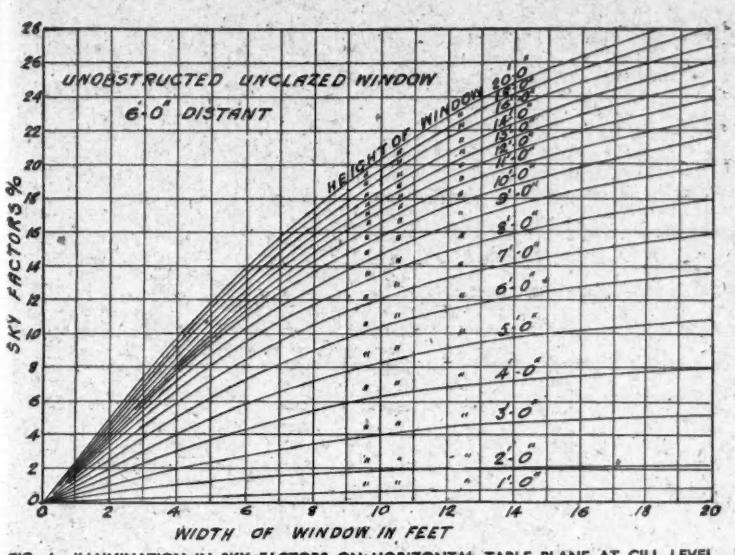


FIG. 4.—ILLUMINATION IN SKY FACTORS ON HORIZONTAL TABLE PLANE AT CILL LEVEL FROM UNOBSTRUCTED UNGLAZED WINDOW 6 FT. DISTANT.

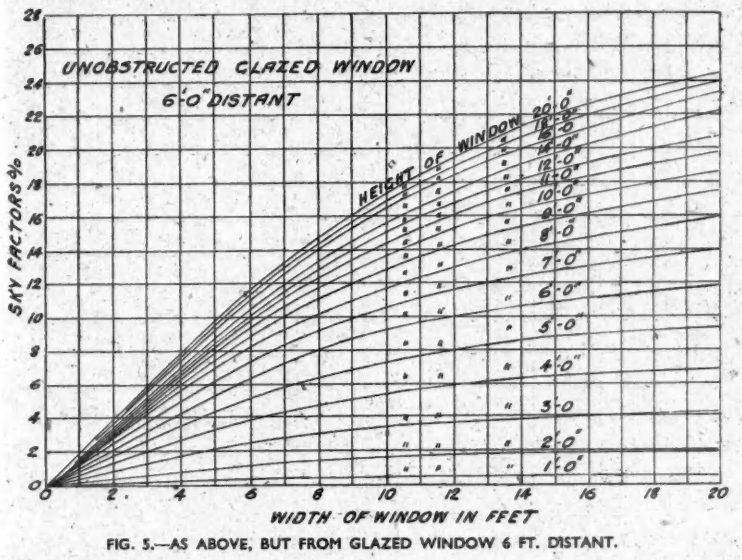


FIG. 5.—AS ABOVE, BUT FROM GLAZED WINDOW 6 FT. DISTANT.

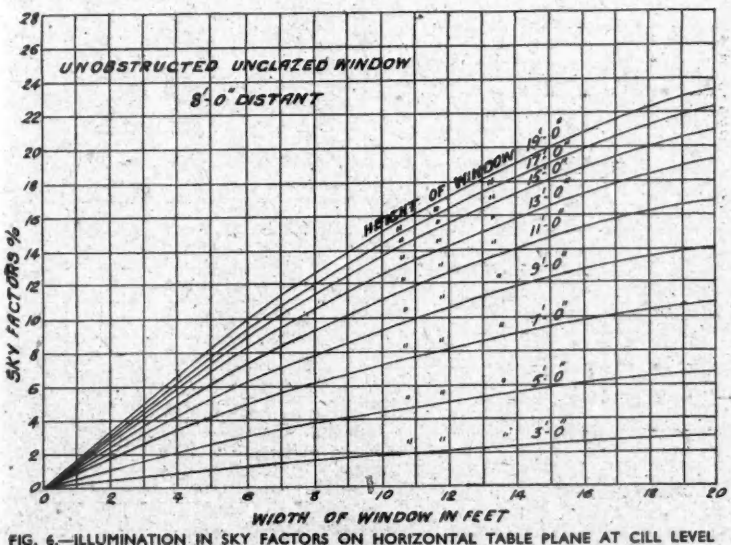


FIG. 6.—ILLUMINATION IN SKY FACTORS ON HORIZONTAL TABLE PLANE AT CILL LEVEL FROM UNOBSTRUCTED UNGLAZED WINDOW 8 FT. DISTANT.

cheerful and pleasing interiors would adopt in design and decoration anything which will ultimately be suggestive of fine weather out of doors—*e.g.*, light and not dark ceilings overhead, and would, therefore, keep his window heads as high as possible. With this exception the writer leaves to architects the further investigation by intelligent observation, of this factor of cheerfulness in natural lighting. It is a fascinating study.

Useful Lighting.

The useful lighting of a room, depending as it does at every point on the table plane mainly upon the sky factor at that point, is amenable to more precise investigation, at least to the extent of ascertaining what relation of width to height gives the greatest sky factor value per square foot of glass at different distances back from the window; of determining, in fact, the relative advisability, as regards useful lighting, of fixing oblong windows upright after the manner of our forefathers or on their sides in the modern style.

It is clearly an architectural crime to sacrifice to external appearance anything which tends to improve the natural lighting of interiors, which, at least in towns, have generally little or nothing to spare. Also, as windows cost more than walling, it is scarcely less reprehensible to fail to give a client the best value for the glass area for which he pays. It is, therefore, of importance to ascertain the shape of window opening most efficient for useful lighting.

Such investigation is materially assisted by data of the character indicated in Fig. 3. This is an example of the tabulated results of an investigation into the relative sky factor value on a horizontal table plane at cill level of each square foot of an unobstructed window opening 20 ft. by 20 ft. at different distances back from the window wall. Similar tabulations for other distances back were published in a paper read at an international congress of lighting engineers held in Paris in 1937, and will be found in an extract from the version in English of that paper in the issue of *The Builder* of October 1, 1937.

By summing up the appropriate values in tabulations similar to Fig. 3, the total sky factor value of windows of any dimensions up to 20 ft. by 20 ft. can be obtained. This enables graphs similar to Figs. 4 to 9 to be prepared giving alternatively the sky factor value on the table plane at different distances of variations in width and height of window opening. It will be noted that only one comparison is given of glazed with unglazed openings. In an article in the *Journal R.I.B.A.* of October 17, 1936, it was shown that loss by transmission of light through window glass is greatest at positions near the glass, where the angle of incidence is large. As will be seen, there is, at the least of the five distances considered, no material difference between glazed and unglazed openings in the shape of the curves and of the relative distances between them, which determine the ultimate object of the investigation—*viz.*, the relation of width to height which affords the greatest sky factor value per square foot of window opening. Further comparisons of glazed with unglazed openings at greater distances were therefore unnecessary.

Height of Windows.

The final result is indicated on the composite graph Fig. 10, from which it will be seen that the window opening which lights most efficiently any given position on the table plane is, whatever the width, one which subtends a vertical angle of about 45 deg. at that position. This result

might have been predicted without the labour of setting out graphs, from Fig. 3 and similar tabulations for other distances, which all show the same characteristic of values per square foot rising with every increase of elevation up to 45 deg. and then decreasing in much the same way as the square degrees in Fig. 2 (see last week's issue) increase and decrease with differences in angular elevation.

Figs. 4 to 9, however, serve other useful purposes. Not only do they enable window dimensions to be selected which will provide illumination of any given sky factor value at any distance back from the window wall, from unobstructed aspects, but they can be applied similarly to a considerable extent to the conditions of obstructed aspects.

Suppose, for example, it were required to ascertain the width of a window 9 ft. high facing an obstruction continuous across its aspect 43 ft. high above the table plane at a distance of 60 ft. from the window which would give a sky factor of 1 per cent. on the table plane 12 ft. back from the window. When that obstruction is set out to scale on section, it is found that at a position 12 ft. back unobstructed sky is visible and therefore direct light is obtained only through the upper 2 ft. of the opening. The position will, therefore, only receive the difference between that which is provided by a window 9 ft. high from an unobstructed aspect and one 7 ft. high.

Referring to the appropriate graph Fig. 7, it will be found that a width of 8 ft. would be required; and also that no material difference would be caused by dividing this up into two windows each 4 ft. wide and 4 ft. apart.

Graphs are always more informative than tabulations, and Figs. 4 to 9 also give useful information with regard to the effect of width.

The conclusion that a window reaches its maximum efficiency as regards useful lighting only when its head subtends 45 deg. at a point illuminated is of no small practical importance. With unilateral lighting, it is, of course, the back of rooms for which the window must be designed. If the light there is adequate, all positions nearer the window are of necessity better lit. With ordinary storey heights it is obviously impossible for window heads to subtend 45 deg. anywhere near the back of rooms of ordinary proportions. Window heads can, therefore, seldom or never be as high as they should be for maximum efficiency. All that a designer can do is to keep them as high as possible, as when designing for cheerfulness, even when facing unobstructed aspects.

Height is still more essential when facing obstructions. In towns these almost invariably tend to limit the access of direct light from unobstructed sky to the upper parts of windows. The lower the window head, therefore, the greater will be the proportion of the room deprived by external obstruction of all direct light.

This might suggest long, oblong windows near the ceiling as the most efficient per square foot of glass, but windows which do not extend down to or near the table plane occasion to most people acute discomfort. It is known, for example, that top lighting, although the most powerful, materially affects the efficiency of elementary school class-rooms, unless reinforced by some side lighting, even if the latter is so obstructed as to be practically useless. This may partially account for the unpopularity of the Law Courts. Such discomfort may be due to the nascent

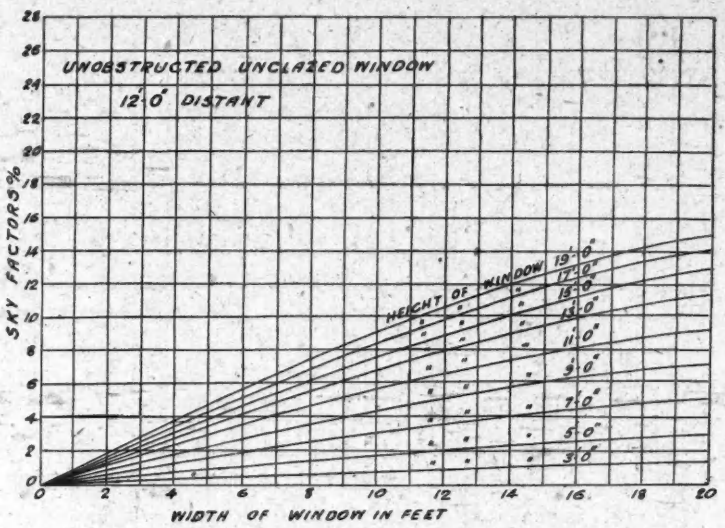


FIG. 7.—ILLUMINATION IN SKY FACTORS ON HORIZONTAL TABLE PLANE AT CILL LEVEL FROM UNOBSTRUCTED UNGLAZED WINDOW 12 FT.. DISTANT.

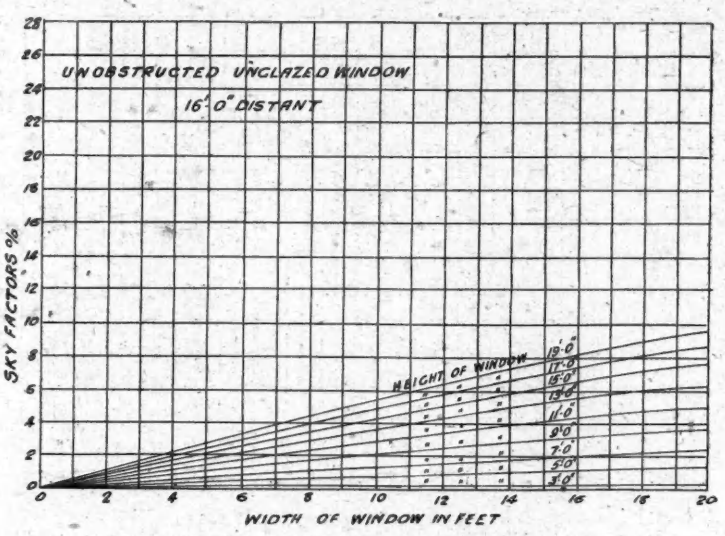


FIG. 8.—AS ABOVE, BUT AT 16 FT. DISTANT.

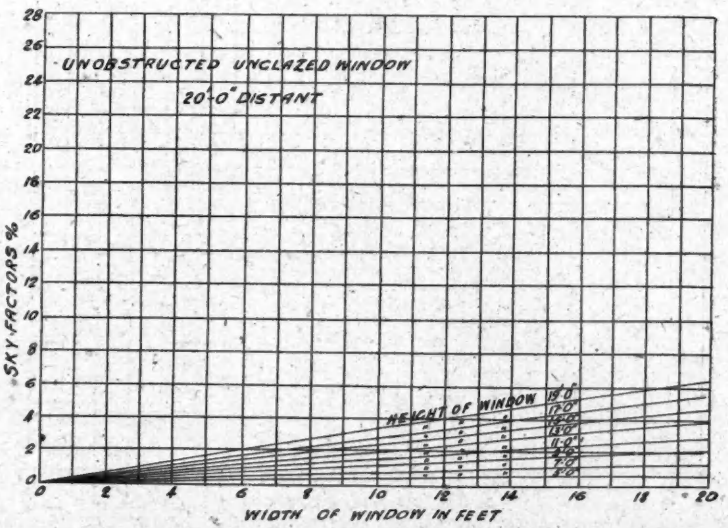


FIG. 9.—AS ABOVE, BUT AT 20 FT. DISTANT.

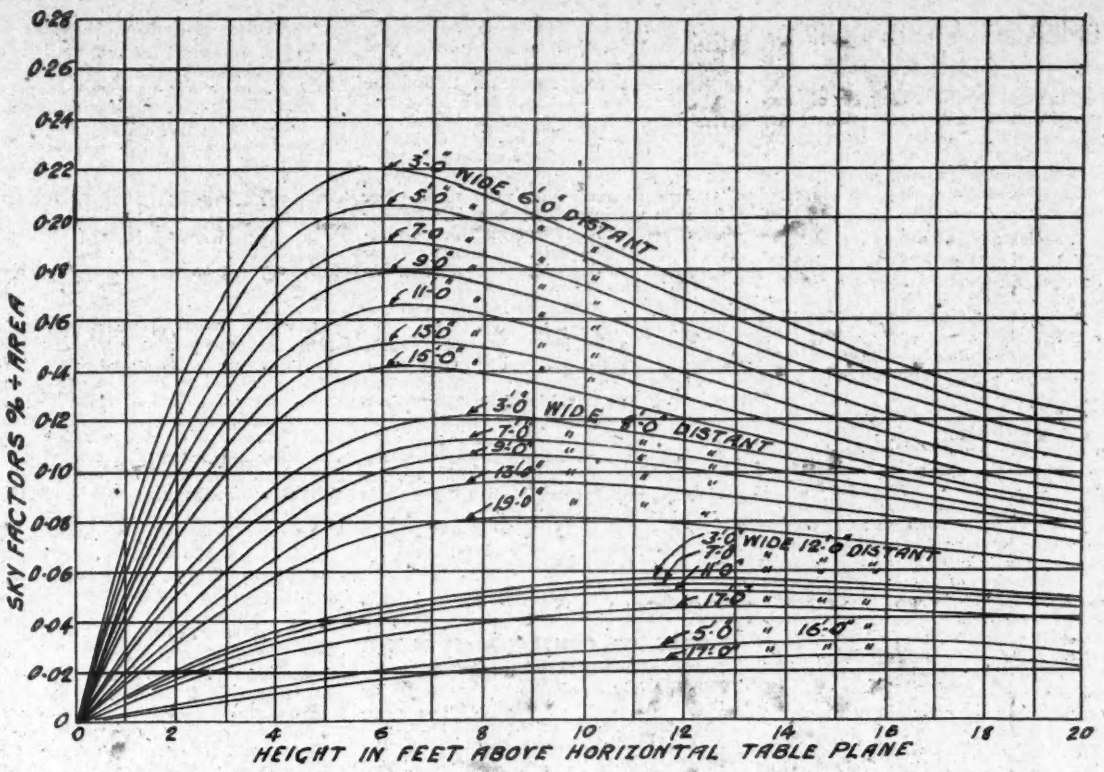


FIG. 10.—ILLUMINATION ON HORIZONTAL TABLE PLANE AT CILL LEVEL IN SKY FACTORS PER SQ. FT. OF UNOBSTRUCTED UNGLAZED WINDOW OPENINGS.

claustrophobia more or less inherent in all of us; an unconscious survival from those prehistoric times when only those could hope to survive who avoided situations to which a lurking enemy could approach unseen.

Be the cause what it may, it is a foregone conclusion that windows high up in the walls, whatever their efficiency, would be so extremely unpopular that consideration of them as a practical proposition would serve no useful purpose.

Width of Windows.

It is now necessary to consider the effect of width of windows on the useful lighting. It will have been obvious from Fig. 10, as well as from the flatness of the curves in Figs. 4 to 9, that the contribution made by width to the efficiency of the window as a means of securing the penetration of useful lighting to the interior is more feeble than the contribution made by height. It will, in fact, be seen from the graphs that some values of sky factor on the table plane at the back of rooms, attainable by a comparatively slight addition to the height of window head, would, if that slight increase be rendered impossible by the storey height, be unobtainable in rooms of ordinary proportions, even if the whole width of the window wall were glazed.

Necessity for Adequate Storey Height.

This leads directly to the fundamental axiom that the possibility or impossibility of obtaining any given criterion of adequate useful unilateral lighting may depend upon adequate storey height in relation to the depth of the interior to be lit, even when the aspect is unobstructed.

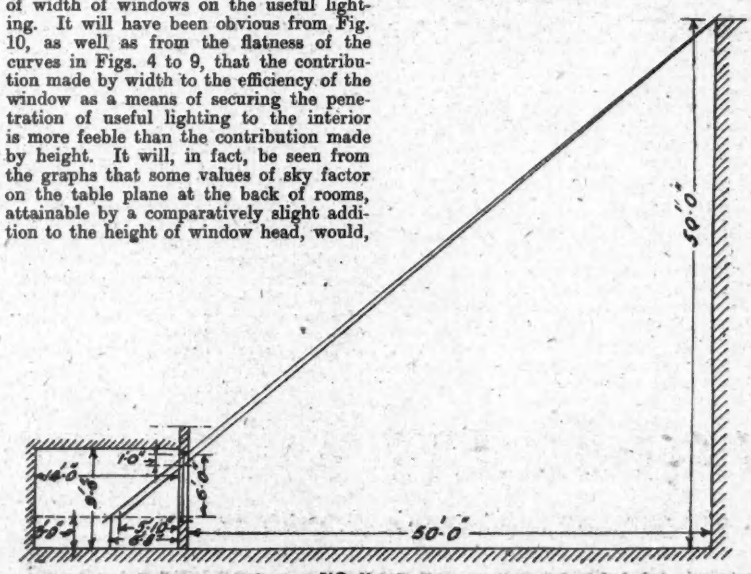


FIG. 11.

When it is obstructed, if only to a moderate degree, storey height, by governing the maximum height of window head, becomes even more vital.

Consider, for example, the conditions in a ground-floor room 14 ft. deep and 9 ft. 6 in. high from floor to ceiling, which permits of windows 6 ft. high above a table plane about 3 ft. above floor level to within 6 in. below the ceiling, when facing a row of buildings 50 ft. distant and 50 ft. high above ground level, quite a moderate degree of obstruction for towns.

As will be seen from Fig. 11, no direct light from visible sky can penetrate to table height to the table plane beyond a point 6 ft. 8 in. back from the window wall, so that with this storey height, depth of room and degree of external obstruction at least more than half the room is of necessity inadequately lit at table height; whilst at a distance of 5 ft. 10 in. back the table plane only enjoys the difference between a window 6 ft. high and one 5 ft. high.

If the reader sets out similarly a section through the window and a continuous obstruction of 30 ft. distant and 30 ft. high (which, although it is also one of 45 deg. is clearly less severe), it will be found that the condition of no visible sky at table level occurs at about 8 ft. back from the window, and that the condition of sky being visible only through the top 12 in. of the window occurs at 6 ft. 6 in. back.

Whilst any increase in the height of an obstructed window almost invariably benefits materially at least some parts of the room, it is very seldom possible in towns to effect any material gain by increasing the width in order to enable light to penetrate sideways. Town aspects, like a famous old lady, seldom have any sideways.

(To be concluded.)

EMERGENCY INQUIRY BUREAU

Questions from readers arising out of Wartime difficulties and recent Emergency legislation will be answered by a special staff of contributors. Questions, which should be addressed to the Editor, should be accompanied by a stamped addressed envelope.

Building Contractor's Legal Responsibilities.

SIR,—*A discussion has arisen as to a building contractor's legal responsibility for the safety and efficiency of a building for the actual purpose for which it is erected. For example, a builder is invited to tender for a hospital or office building, etc., having reinforced concrete foundations and floors, steel stanchions, beams, etc., and with walls of brick and stone; typical of the modern steel-framed buildings erected in large cities during recent years. A full set of drawings, together with bills of quantities and specification, are prepared by a chartered architect and a chartered surveyor respectively, whilst a qualified structural engineer is engaged on the preparation of steelwork and reinforced concrete drawings. Subsequently, the R.I.B.A. form of contract is entered into with quantities forming part of the contract; and the structure duly erected strictly and conscientiously in accordance with the various drawings and specification which are seen by the contractor at the time of tendering.*

The point of discussion is, what is the actual legal responsibility of the building contractor so far as the law is concerned should the building or any part of it collapse, provided it has not been misused or strained, etc., beyond the purpose for which it was intended?

Furthermore, if, say, during the progress of a job the builder finds a member, say a steel beam or wall thickness, to be inadequate for its purpose and alters same accordingly, could the architect legally resist the contractor's claim for the cost involved? In this matter it is, of course, agreed that such an extra would indeed very rarely be refuted by an architect; but nevertheless the point of interest is, has the architect any legal grounds for so refusing?

I must add, in conclusion, that these points are only matters of discussion between parties as to the extent of a builder's legal responsibilities and are actually without parallel in the course of anyone's present duties; but assure you your advice on the matters would be greatly esteemed. H. R. G.

A correspondent writes : It is the duty of a builder, before tendering, to inform himself of all particulars concerning the work, and particularly as to the practicability of executing every part of the work contained in the plans, drawings, specification and/or bills of quantities. Furthermore, if he has signed a contract, it is implied that he understands such plans, drawings, specification, etc., and must carry to a conclusion all the work actually contemplated by the contractor.

If, however, the builder has faithfully performed his contract, and has completed the whole work in accordance with the contract documents, both as to labour and materials, then he is under no liability for failure of the structure if it is brought about by faulty design. Nor does it matter for what purpose the building is intended. If the design is faulty, liability therefor rests with the person who designed it. If the building collapses, this last person would be liable for negligence and not the builder; unless it could be shown that the latter had departed from the design and given bad labour and materials.

The same rule applies if a building collapses when it has not been misused or strained, etc., beyond the purpose for which it was intended.

Most building contracts require that before a builder can recover for an "extra" he must have received an order for it in writing. Therefore, if a builder alters a steel beam or wall thickness because it is inadequate, he cannot recover payment for it without the order in writing, unless he can show he asked the employer for an order in writing, and was refused it.

It may be that in order to complete the contract work it is really necessary to alter the size of a beam, or wall thickness, in which case, if bills of quantities form part of the contract drawings, he could recover payment for the extra; since the bills of quantities represent the work the builder has to do, and if in order to complete the contract work he is obliged to do more, he is entitled to be paid for it as an extra. Even so, it is wise always to obtain an order in writing for the "extra."

OFFICIAL NOTIFICATIONS

CENSUS OF CONTRACTORS' PLANT.

Ministry of Works Order.

The Minister of Works has made an Order (Owners of Contractors' Plant (Returns) Order (S.R. and O., 1942, No. 57), Regulation 55 of the Defence (General) Regulations), under which all persons or undertakings, including local authorities and public utility undertakings owning certain items of contractors' plant are required, when requested, to furnish information about such plant.

The following are the main items affected by the Order :—

Excavators with their equipment (e.g. drag lines, shovels, back-acters and skimmer).
Mechanical trenchers.
Mobile cranes mounted on road wheels.
Tractors with their equipment (e.g. bull dozers, angle dozers and scrapers).
Portable compressors.
Dumpers mounted on road wheels.
Concrete mixers.
Road rollers.

Requests for information covering these items are now being sent out by the Ministry to owners of contractors' plant. If by January 26 any owner of plant described above had not received a copy of this request, he is asked to inform the Director of Plant, Ministry of Works and Buildings, Lambeth Bridge House, London, S.E.1, when the appropriate form will be sent to him. All forms must be returned to this address by February 8

Office Machinery: Permits Needed.

The Board of Trade have made a Supply of Office Machinery (Restriction) Order to cover dictating, accounting, adding, calculating and punched-card machines, whether new, reconditioned *or second-hand*. As from January 21, therefore, no person may supply or acquire any such machinery, without permission. Persons wishing to acquire office machinery of the above kinds *for their own use* should submit their requirements to their suppliers. The suppliers will notify the Directorate of Office Machinery of these requirements, and the Directorate will then authorise the release of machines, in approved cases, as far as supplies will allow.

Copies of the Order (S.R. & O. 1942, No. 29) may be obtained from H.M. Stationery Office or any bookseller.

Control of Building Materials.

The Director of Roofing, Ministry of Works, announces that in the Press notice of the above heading, dated January 1, "Plasterboard" refers to gypsum plaster wallboard and baseboard : "wallboard" refers to wallboard (pulp or fibrous type).

PLANNING FOR DAYLIGHT

IN a paper on this subject read by Dr. John W. T. Walsh, M.A., D.Sc., M.I.E.E., to the Illuminating Engineering Society on January 13, the lecturer stated that the now general acceptance of the daylight factor as a measure of daylighting and the adoption by the I.C.I. of the 0.2 per cent. d.f. as a measure of inadequacy were the most important advances in principle. The great advance in practice had been the development of methods for calculating daylight factors from the geometry of a building. Following is the lecturer's summary of his paper :—

Buildings on Open Sites.—For rooms with an unobstructed outlook the chief factors governing the daylight are : (a) The total area of the window, and (b) the height of the window-head. In this connection the importance of adequate ceiling heights is mentioned.

Buildings in Towns.—To secure adequate daylight in towns it is necessary to have building regulations framed so as to ensure that every building has its fair share of daylight. Reference is made to proposals which have been put forward to secure this object. Complementary to the above requirement is the necessity for ensuring that buildings are designed in such a way as to make the best use of the daylight secured by the regulations. It is here that the predetermination of daylight factors is of vital importance.

The No-Sky Line.—Since the calculation of a d.f. contour for a room with an irregular obstruction is somewhat laborious, use is often made of the fact that the 0.2 per cent. contour frequently lies close to the line behind which there is no direct view of any portion of the sky.

Definition of Adequate Daylighting.—It is necessary to have some criterion for deciding whether or not a room is adequately daylighted, and reference is made to the 1931 proposals of the National Illumination Committee.

Buildings on an Island Site.—The planning of a large building such as a block of offices or a multiple dwelling to occupy an island site is considered at some length, and reference is made to publications on the subject. The adoption of a cruciform plan, rather than the conventional plan with internal or external light wells, has great advantages from the point of view of daylight. This form of building is considered in some detail, and plans showing the 0.2 per cent. d.f. contour and no-sky line in typical rooms for the two types of building are given showing the very great improvement in the lighting which can be secured by the adoption of the cruciform plan.

Balconies.—The loss of daylight due to the balconies frequently met with in multiple dwellings is often very serious.

Schools, Factories and Other Buildings.—A higher standard of daylighting may often be required in buildings designed for special purposes. There is need for more information regarding the standard of daylight needed for different industrial processes.

LONDON MASTER BUILDERS' ASSOCIATION

ANNUAL GENERAL MEETING.

THE 70th annual general meeting of the London Master Builders' Association was held in the Connaught Rooms, Great Queen-street, W.C.2, on January 20.

The PRESIDENT, Mr. Clifford C. Trollope, in his opening address, reminded the meeting that last year when he was elected to fill the office of President, he expressed the hope that the skies would have been cleared, and there would be a more favourable outlook in the industry before his year ended. Unfortunately, the volume of work was tending to diminish, and the curtailment of the Government programme had further aggravated the position. This particular aspect, especially in order to try to safeguard the medium and smaller firms, had been taken up very seriously by the National Federation of Building Trades Employers, and it was understood the intention was to present, through the Minister of Works and Buildings, a carefully prepared document to the Production Executive of the Cabinet.

In proposing the election of Mr. W. E. Rice as President of the Association for the ensuing year, which proposition was carried unanimously, Mr. Trollope said that Mr. Rice had been of the greatest assistance in helping to guide the Association through a very difficult and unprecedented year. He was a man of broad outlook, great quality and firm convictions, with wide experience and knowledge of the industry.

A very sincere vote of thanks to the retiring President for his valuable services to the industry during the past year, upon the motion of Mr. W. E. RICE, was carried by acclamation.

Mr. H. C. Harland, of Messrs. John Laing and Son, Ltd., was elected Senior Vice-President. Mr. J. S. Galbraith, of Messrs. Galbraith Bros., Ltd., was elected Junior Vice-President, and Mr. E. W. Garrett, of Messrs. J. Garrett and Son, Ltd., was elected Honorary Treasurer.

The members of the Council who retired by rota were re-elected, and two new members were elected—namely, Major A. N. Braithwaite, D.S.O., M.C., M.P., of Sir Lindsay Parkinson and Co., Ltd., and Mr. R. Baker Smith, F.I.O.B., of Messrs. William F. Blay, Ltd.

Annual Report.

The annual report was received and adopted. From this we take the following extracts :—

REORGANISATION.—A Public Relations Committee was appointed charged with the duty of making as widely known as possible that the Association would welcome applications for membership from builders in the London district, irrespective of their size, provided they could satisfy the Council they had the proper qualifications and had been established as builders for a reasonable period. In addition to steps taken by the Committee, the Council, in order to create closer liaison with the members, had formed eleven Area Committees embracing the whole of the local authorities which came within the 15-mile radius. [These have already been given in *The Builder*.]

These decisions had resulted in the election of new builder members during the past year, and a large number of further applications were under consideration. The total membership now amounted to 788.

MINISTRY OF HOME SECURITY CONTRACT.—The Contracts Committee of the Council had under consideration many questions which had arisen in connection with this Contract, and through its chairman, Mr. A. H. Adamson, had made representation to the National Contracts Committee upon the following questions :—(1) Limitation of liability of contractor for third party claims. (2) Inclusion of War Damage Insurance premiums in the prime cost. (3) Failure of contractor to effect insurance. (4) Cost of carriage of small plant. (5) Prompt issue of certificates. (6) Payments for work under £100. (7) Charge for rendering separate accounts. (8) Increase of fee payable for works on numerous separate properties. (9) Profit rate allowed on subcontracts.

These and other questions had been discussed by the National Federation Committee with the Ministry of Works and Buildings and the Ministry of Health, and negotiations were still proceeding.

APPRENTICESHIP.—A report from the Apprenticeship Committee of the National Federation was circulated to all regions, together with the Yorkshire Federation Scheme for consideration. This had been considered by the Apprenticeship Committee of the Association, and with the Council's approval the Committee's recommendations had been submitted to the National Federation. The main principle was that recruitment should be on a national basis and the terms and methods of apprenticeship should be nationally devised.

PRIZES TO STUDENTS.—The Council had made a grant of £5 5s. to the City and Guilds of London Institute for the purpose of providing prizes to the students.

CHARITABLE INSTITUTIONS.—The Council had granted a donation of 25 gs. to the Builders' Benevolent Institution and 20 gs. to the Provident Institution of Builders' Foremen and Clerks of Works.

ADVICE TO MEMBERS.—A rota comprising one past-president and one member of the Administrative Committee had been set up and was available to members for consultation on notifying the secretary in addition to the preliminary free legal advice by the Association's solicitor.

MASTER BUILDERS' ELECTIONS.

Mr. Harry Nicholson has been elected President of the Wakefield and District Building Trades Employers' Association.

The new President of the Bath Building Trades Employers' Association is Mr. George W. Grosvenor (Messrs. J. Long and Sons, Ltd.).

Mr. R. D. Bond has been elected President of the Cardiff Association of Building Trades Employers, with Mr. S. Essex Williams Vice-president.

The new President of the Torquay Federation is Mr. Harold Vanstone, the deputy president being Mr. Charles Dear.

OBITUARY

J. N. Johnston A.R.I.B.A.

The death has occurred, at the age of 81, of Mr. Joseph Nicholson Johnston, of Yeovil, where he had planned many buildings in the town, including houses in the Park. One example of his work is St. Michael's Church.

James Murray.

Mr. James Murray, of Kirklinton, surveyor to Longtown R.D.C. for 40 years until 1930 when the Council was merged with the Border R.D.C., has died, aged 77.

J. W. P. Rawlins.

We regret to record the death of Mr. J. W. P. Rawlins, director of Messrs. G. T. Crouch, Ltd., and the Parker Construction Co., Ltd.

GREATER LONDON MASTER BUILDERS

MR. BEAVER ON FUTURE RESTRICTION OF BUILDING WORK.

THE FACT that we were past the peak of our war building programme and that further restriction upon constructional output might be expected was referred to by MR. HUGH BEAVER (Director-General of Works) in a speech to the Federation of Greater London Master Builders at their fourth quarterly luncheon at the Connaught Rooms on Tuesday. Mr. Beaver also announced proposals to form a "Garrison" scheme intended to secure to the country an irreducible minimum of builders and labour. Mr. A. N. Dove, J.P., L.C.C., M.I.O.B. (President) was in the chair.

MR. BEAVER gave first some figures which showed the present trend. In July, 1941, the Ministry of Labour figures (then the only statistical record of the greatest industry in the country) showed that there were 1,390,000 males engaged in the building and civil engineering trades, divided as to 1,050,000 in building, and 340,000 in civil engineering, of which total 200,000 were unemployed. By July, 1941, there had been a total drop of 350,000, but against that only 15,000 or fewer were returned as unemployed, so that the position after two years of war was that the industry had 80 per cent. of its pre-war productive capacity. In the last war, labour fell to 500,000 employed, about half of its normal figure, and it would be wise to base future calculations on the assumption that there would be still further curtailment of the industry not unlike the last war. We were past the peak of the building programme, and it would be tragic if it were not so, for so long as buildings remained unconstructed we stood a long way off full war effort. The time was approaching when munitions would have to be provided with the help of every available man and woman in the country. The figures of labour yet required were, to his mind, staggering, and he felt the Government might have to look for quite a part of it from the building industry.

It was the Government's policy to curtail building and also to co-ordinate the building industry—no easy task. When, just over a year ago, the Ministry of Works took over that task, the building programme proposed was very nearly double the industry's capacity to execute. There was still talk of labour shortage—a sign that they had not yet been fully successful in curbing the excessive optimism of some of the Departments, but the surplus of work was down to 10 per cent. A balanced programme was required, but before we could have that we had to have a balanced industry, with reliable information and data and a stable programme. We were far off in many ways from that ideal. When it took over, the Ministry was faced with the almost complete absence of information about the industry, and but for that the unfortunate denudation of its young skilled labour might never have been permitted. Steps that had been taken to obtain that information were : first, a voluntary census which drew 6,000 replies and on which the system of allocation of work had largely been based; and, second, compulsory registration of builders and master traders. There were 47,925 who were registered as builders or civil engineering contractors or as combining the two. 45,000 were

builders only. The purely building firms employed 392,000 men, an average of nine persons per firm. The 3,000 who carried out civil engineering wholly or partly employed 522,000—an average of 180 per firm. No less than 33,709 firms were plumbers, joiners or carpenters employing an average of less than three persons per firm. 80,240 firms employed less than 20 people, actually an average of less than three employees each; while only 1,257 firms employed over 100 persons. This was at July, 1941. We had, unfortunately, no really comparable pre-war figures, but so far as one might judge from the 1935 Census of Production, there had been yet no equivalent reduction in the number of firms parallel with the fall in labour. "In some form or other," declared Mr. Beaver, "such reduction must come. There is no escaping that hard fact. From now on, the total amount of new work will be ever contracting. Moreover, the whole character of building has largely changed as a result of the war; house building, which absorbed half the industry, has disappeared, and the size of works has greatly increased and the time for their completion shortened, so that to a large extent these war works have in fact been beyond the capacity of many competent builders. That has been the cause of civil engineering contractors taking such a large part in builders' work. Over 200,000 extra operatives had been passed over to them. The effects upon the small builder would undoubtedly have been harder but for air-raid damage." The effects of that, in his opinion, were not likely to be equalled again, and so the problem for the small builder became even more acute.

The Ministry of Works had always striven for the utilisation of the smaller and medium-sized builders, but the Ministry at present only controlled less than 20 per cent. of the building work and between 11 and 12 per cent. of the total labour force. One might think the Ministry should have a larger share in the placing of contracts, but they could not exceed the compass of their authority. In 1941, under 800 contracts were placed by them with 600 firms. Much thought had been given to small builders and how best to safeguard them, especially by grouping them. In some cases success had been met with, but on the whole they were not optimistic of success. There was no hope in present circumstances for numbers of groups to compete in efficiency and costs with large firms, though the Ministry had prepared a suitable legal form of group responsibility agreement as a guide to a solution of one of the major difficulties in the formation of groups. The Ministry had also laid down a procedure to secure preference to local firms in respect of all contracts up to £25,000 and were now considering a proposal for the introduction into all major contracts of a clause imposing a certain minimum, which might vary between 10 and 30 per cent., of building sub-contracting. He believed that the industry, after the first shock, would welcome this. Both these proposals would also be suggested for adoption to other Ministries. And also they had, in the regional emergency organisations and in the more recent scheme for the preservation of a fixed labour force for maintenance work, two measures which, while primarily for war purposes, must affect and benefit the great bulk of builders.

While the measures outlined must have notable effect, nothing could secure a sufficiency of work for all firms. What, then, were we to do? Were we to let the laws of supply and demand operate unchecked and unhampered, or attempt to find some means of spreading more equitably over the whole industry the losses that must otherwise fall on the individual? It lay rather with the industry than with the Government, but all the Federations were to be invited to discuss with the Ministry whether any form of concentration or of controlled contraction was practicable. "In spite of allegations and rumours to the contrary," said the speaker, "there is no such official—or unofficial—scheme in existence or as yet under consideration."

In conclusion, Mr. Beaver dealt with a number of matters which his Ministry had under consideration. Among these was the establishment of a panel of the industry to which all alleged breaches of the Registration conditions of employment would be referred. Labour-hoarding had been stopped and there were controlled rates for plant hire. Then, through the Central Council, they had produced a standard priced schedule which would be of the greatest benefit. It was now being printed and would be put into force on their own contracts, but which would, he hoped, have a wider application for all building contracts, for sub-contracts and as a substitute for the "cost" form of contracts. Finally, he would refer to what he would call the "Garrison" scheme, intended to secure that there would be an irreducible minimum of employers and labour to keep the wheels of the country turning. This scheme would be operated by the Ministry with the assistance of the Emergency Organisations, acting through a regional committee in each area. The industry would have a full voice, and these means must ultimately alleviate the situation considerably. This was on all fours with the whole policy of the Ministry, which was not to weaken the industry, but to take the opportunity to strengthen it to deal with whatever the future had to bring.

In response, MR. W. A. MATHER said that the membership of the Federation was just under 1,000, and called upon members to play an increasing part in the government of the industry. "No longer," he declared, "can we allow the politics of the building industry to be controlled by the powerful few, principally the vested interests." The present problem to be solved was how best to organise the industry to assist the Government to win the war. The large contractors had "had a go" and had failed. "There is only one way to solve this problem, and that is with the assistance of all builders—large, medium and small. The present Government have partly recognised this fact and are trying to rectify the position through the Ministry of Works. But the Ministry must recognise that there are two different sections of employers—the medium and small and the large contractors. The real solution can only be arrived at by full discussion with both sections of the industry."

After paying a tribute to the work of Major Wallis for the Builders' Emergency Organisation, and to Mr. J. M. Wilson, the new Director of Emergency Works, the speaker turned to the operatives, who, he said, had also got to realise that there were two sections of employers in the industry and that future negotiations, if they were to be of any real benefit to the industry, must be negotiated with both sections; otherwise, like a lot of the existing agreements—and especially the national working rule—they would be absolutely unworkable.

Among the company were Major-General K. C. Appleyard, Mr. J. M. Wilson, Mr. A. T. Goldsmith, Mr. V. T. Sulston, Mr. H. J. Goodman, F.I.O.B. (Chairman of Council), Mr. W. P. Ball, and Mr. L. B. Venning, F.C.A. (Secretary).

Having Secured the Contract—what about the Steel Scaffolding?

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IN PARLIAMENT

Building Directors.

MR. BOSSOM asked the Parliamentary Secretary to the Ministry of Works and Buildings how many directors had been appointed since his Ministry was instituted; what were their several duties; how many of them were there to-day; how many had left, either temporarily or permanently, during the last four months; and how many were about to leave in the near future.

MR. HICKS said that 11 directors had been appointed in the Ministry of Works and Buildings since its creation—namely, of Bricks, Cement, Roofing and other Materials, Standardisation, Constructional Design, Labour Requirements and Plant, Building Programmes, Works, Emergency Works, Post-War Buildings, and Demolition and Recovery. Their duties were implied in their respective titles. Within the last four months the Director of Building Programmes had resigned, and the Director of Standardisation had temporarily relinquished that position, in both cases owing to the demands of their private businesses, which were engaged on important war work. One further change would shortly take place.

Change of Address.

Messrs. Percy Bilton, Ltd., civil engineering and building contractors, have returned to Bilton House, 111/113, Park-street, Mayfair, W.1. Telephone: Mayfair 8240.

Southern Counties Federation.

The Southern Counties Federation of Building Trades Employers announce that Mr. Alfred Cannon, F.C.I.S., has relinquished his position with the Federation, having taken up an appointment with the Ministry of Works and Buildings as Emergency Works Officer, Southern Works and Buildings Emergency Organisation, as from January 1. Mr. Stanley R. Gerdes was last year appointed Secretary of the Federation. At the annual general meeting of the Federation, on January 22, Mr. Cannon was presented with a cheque on his retirement.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING.

FEBRUARY 2.

Horsham U.D.C.—Cleansing centre. *C.* G. Atkinson, F.S.I., S.

FEBRUARY 3.

Spenborough U.D.C. — Constructional and decoration work at war time nursery. E. and S.

FEBRUARY 4.

Belfast Ministry of Finance.—Five potato drying factories. Ministry of Finance (Room 128) May-st., Belfast. Dep. £1 each factory.

Irvinestown R.D.C.—Repairs to 12 cottages. S. T. Aitken, Clerk, Boardroom, Irvinestown.

FEBRUARY 5.

Dublin Commissioners of Public Works.—Two National schools. P. Fagan, secretary, Office of Works. Dep. £1 each set.

FEBRUARY 6.

Wexford T.C.—Five bungalows. T.C. Dep. £3 3s.

FEBRUARY 9.

Basford R.D.C. — Four static water basins. J. J. Ellis, E. and S.

FEBRUARY 10.

Tunbridge Wells T.C.—15 above ground shelters. B.S. Dep. £1 1s.

FEBRUARY 11.

Bexhill T.C.—Construction of two static water tanks (of 60,000 and 72,000 gallons capacity) on basement sites. B. S., Garth-pl., West Down-rd., Bexhill. Dep. £1 1s.

FEBRUARY 12.

***Chertsey U.D.C.**—Kitchen and lavatories and adaptation of existing building for canteen at depot. E. and S.

***Gravesend T.C.**—Strengthening public surface shelters. B. E. and S.

FEBRUARY 14.

Omagh Regional E.C. — Protection works at schools. R. Fergusson and S. McIlveen, 36-37, Scottish Provident-bldgs., Belfast.

FEBRUARY 16.

***Merton and Morden U.D.C.**—Maintenance repairs and redecoration of 531 houses. S.

PAINTING, ELECTRIC LIGHTING,

FEBRUARY 6.

Sedgley U.D.C.—(1) Painting of ironwork at Lower Gornal disposal works; (2) painting of ironwork at Gospel End disposal works and a pumping station. S. Dep. 10s. each.

FEBRUARY 9.

Waterford Joint Committee of Management.—Electrical installation at mental hospital. T. H. M. Wain, Consulting Eng., 23, South Mall, Cork. Dep. £5 5s.

MATERIALS.

FEBRUARY 2.

Bridlington T.C.—Road materials. B. E. and S.

Rhondda U.D.C.—Road materials. E. and S.

Swadlincote U.D.C.—Road materials. E. and S.

FEBRUARY 4.

Bexley T.C.—Road materials, etc. B. E. and S.

FEBRUARY 5.

Cumberland C.C. — Road materials. County S.

Swansea C.B.—Builders' materials, etc. B. E. and S.

FEBRUARY 6.

Kensington B.C.—Road materials, etc. T. C.

Todmorden T.C.—Road materials, etc. B. E.

ROAD, SEWERAGE AND WATER WORKS.

FEBRUARY 3.

Irvinestown R.D.C.—Road maintenance works. S. T. Aitken, Clerk.

FEBRUARY 4.

Yeovil R.D.C.—Laying of approx. 110 yds. of 9 in. dia. sewers. S. Dep. £2 2s.

FEBRUARY 6.

Billericay U.D.C.—Dismantling, salvage of timber, etc., and filling in of approx. 514 yds. of abandoned timber-lined trench shelters. S. Dep. £2 2s.

Birmingham T.C.—Extension of sewage disposal works. Chief Eng. and Manager, 14, Dale-end, Birmingham. Dep. £2.

West Suffolk C.C.—Repair of culvert nr. Wattisfield. County S.

WAGES INCREASE

The National Joint Council for the Building Industry, having reviewed the wages payments in force under the War-Time Emergency Agreement of November 22, 1939, and finding that a variation amendment of the current standard rates is due to be made, has decided that on and from February 1, 1942, the current standard rates of wages shall be adjusted by an increase of one-halfpenny per hour, and that the same increase of one halfpenny per hour shall also be made in labourers' rates.

These increases have been made in our Wages Table (p. 114).

DIFFERENTIAL MARGIN ALTERATION.

Concerning the differential margin of 1d. per hour below the craftsmen's rate applying to painters in the London Region, the Council has decided: (a) There shall be a reduction of the differential margin to ½d. per hour as from February 1, 1942; and (b) the differential margin of ½d. per hour then operating shall be removed as and from February 1, 1943.

WOMEN'S AND YOUNG LABOURERS' WAGES.

Adherent bodies and regional joint secretaries are reminded that the increase of one halfpenny per hour in the standard rates will require consequential adjustments in the rates of wages to be paid to: (i) Woman operatives; (ii) young male labourers.

Under the respective agreements: (i) Women operatives will receive an increase of one halfpenny per hour; and (ii) young male labourers will receive the appropriate percentage of the new labourer's rate.

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A.R.P. SCHEMES

LONDON.

Croydon.—B. of E. approved additional shelters at 14 elementary schools, at £4,241.

Romford.—T.C. accepted tender of Baker, Hammond and Laver, Ltd., at £2,983 for reconstruction of 13 trench shelters.

St. Pancras.—London Region approved installation of electric heating in basement shelters, at £305.—B.C. placed contract with Henry Hartley & Co., Ltd., at £595, for food decontamination building and gas-cleansing shed.

Walthamstow. Details submitted to B. of E. for shelters at four schools and a protected classroom at one school, at £1,625.

Wandsworth.—Regional Commissioners approved scheme for 50-person (bunked) shelter at St. Mary's Hall, Tooting, at £310.—B.C. placed contracts with following for strengthening communal surface shelters. P. G. Woodley, Ltd., at £827 (10); J. E. Dyer, Ltd., at £764 (9).—W. H. Lorden & Sons, Ltd., secured contract, at £1,025, for adaptation of Heathbrook L.C.C. school as public cleansing station.

Westminster.—Sims and Russell to execute new toilet accommodation at Central Cleansing Depot, at £119.

PROVINCIAL.

Bridlington.—S. Kilvington, 50, Cardigan-rd., Bridlington, secured contract, at £930, for sanitary conveniences to public shelters for T.C. Plans by A. Everingham, B.E.

Darlington.—W. S. Hutton, Ltd., Post House Wynd, Darlington, secured contract for conversion of basement at training college into shelter.

Durham.—B. of E. approved shelters at Stockton secondary school, at £338.

Eccles. — T.C. propose installing electricity and water supplies to public shelters, also strengthening 149 communal compartment-type domestic shelters, and 39 semi-bunk public shelters.—Heating schemes prepared for gas-cleansing station, Chadwick-rd.

Higham Ferrers. — T.C. approved: Shelter to works for J. White (Impregnable Boots), Ltd.

Lutterworth.—R.D.C. propose large concrete water storage tanks on selected sites.

Middleton.—E.C. applying to B.E. for sanction to borrow £10,182 for shelters to elementary schools.

Newcastle-on-Tyne. — City Council to erect shelter at Heaton secondary schools. Plans by Education Architect, Northumberland-rd.

Peterborough.—E.C. propose strengthening existing school shelters and to instal bunks, at £12,500.

Scunthorpe.—T.C. placed contract with G. Chessman, "Trent Lea," Keadby, Scunthorpe, at £374, for static water supply basin. W. Farrar, A.M.Inst.C.E., B.E. & S.

Sheffield.—T.C. approved: First-aid post and cleansing station to works for Arthur Lee & Sons, Ltd.

Sunderland.—R.D.C. to strengthen and heat brick shelters, at £4,500. Plans by C. Emmerson, S.

Worcestershire.—C.C. accepted tender of J. & A. Brazier, Ltd., Worcester-rd., Bromsgrove, for erection of blast wall at the Cottage Homes, Bromsgrove.

SCOTLAND.

Glasgow.—Corporation accepted following tenders for water tanks: McArthur Concrete Co., Ltd., Glasgow, £1,174; Angus MacDougall & Sons, Ltd., Bridgeton; J. C. Filley, Ltd., Glasgow, £380; J. C. Filley Ltd., Glasgow, £1,130.

Glasgow.—Corporation placed following contracts for water tanks: Angus M. MacDougall & Co. Ltd., £1,045; A. & J. Faill, Ltd., Blythswood-sq., £725; F. J. C. Fellows, Onslow-sq., £1,124; A. MacDougall & Sons, Ltd., £660.

Greenock.—Plans prepared for work on shelters, at £1,200, the architect being D. Henderson, Municipal-bldgs.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1942

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	1/11	1/6½	Clitheroe	1/11	1/6½	Isle of Thanet	1/9	1 4½	Saxmundham	1/7½	1/3½
Aberdare	1/11	1/6½	Cobham (Surrey)	1/10	1/5½	Isle of Wight	1/8½	1/4½	Scarborough	1/10½	1/5½
Abergavenny	1/11	1/6½	Colchester	1/10½	1/5½	Keighley	1/11	1/6½	Scunthorpe	1/11	1/6½
Abingdon	1/9½	1/5	Colwyn Bay	1/10	1/5½	Kenilworth	1/11	1/6½	Selby	1/11	1/6½
Accrington	1/11	1/6½	Congleton	1/10½	1/5½	Kettering	1/11	1/6½	Sevenoaks	1/9½	1/5
Aldeburgh	1/7½	1/3½	Coventry	1/11	1/6½	Kidderminster	1/10½	1/5½	Sheerness	1/9	1/4½
Aldershot	1/9½	1/5	Cranbrook	1/9	1/4½	King's Lynn	1/9	1/4½	Sheffield	1/11	1/6½
Alfreton	1/11	1/6½	Cranleigh	1/9	1/4½	Kirkham	1/11	1/6½	Shipley	1/11	1/6½
Alnwick	1/10½	1/5½	Crawley	1/9	1/4½	Knowle	1/10½	1/5½	Shoeburyness	1/10½	1/5½
Altrincham	1/11	1/6½	Crewe	1/10½	1/5½	Lancaster	1/11	1/6½	Shoreham	1/10	1/5½
Amble	1/10½	1/5½	Cromer	1/8	1/4	Leamington	1/11	1/6½	Shrewsbury	1/10½	1/5½
Amersham	1/9½	1/5	Crowborough	1/9	1/4½	Leatherhead	1/10	1/5½	Sittingbourne	1/9	1/4½
Ammanford	1/11	1/6½	Cuckfield	1/9	1/4½	Leeds	1/11	1/6½	Skegness	1/10	1/5½
Andover	1/9	1/4½	Darlington	1/11	1/6½	Leicester	1/11	1/6½	Sleaford	1/9½	1/5
Ardingly	1/9	1/4½	Darwen	1/11	1/6½	Leighton Buzzard	1/8	1/4	Slough	1/10	1/5½
Arundel	1/9	1/4½	Daventry	1/9½	1/5	Letchworth	1/10	1/5½	Southampton	1/10½	1/5½
Ascot	1/9	1/4½	Deal	1/9	1/4½	Lewes	1/9	1/4½	Southend-on-Sea	1/10½	1/5½
Ashby-de-la-Zouch	1/11	1/6½	Denbigh	1/10	1/5½	Lichfield	1/10	1/5½	Southport	1/11	1/6½
Ashford (Kent)	1/9	1/4½	Derby	1/11	1/6½	Lincoln	1/11	1/6½	South Shields	1/11	1/6½
Ashford (Middlesex)	1/11	1/6½	Devizes	1/8	1/4	Littlehampton	1/9	1/4½	Spalding	1/9	1/4½
Ashington	1/10½	1/5½	Dewsbury	1/11	1/6½	Liverpool	‡§2/1	¶	Stafford	1/10½	1/5½
Ashtead	1/11	1/6½	Didcot	1/9	1/4½	Llandudno	1/10	1/5½	Staines	1/10	1/5½
Ashton-under-Lyne	1/11	1/6½	Diss	1/7½	1/3½	Llanelly	1/11	1/6½	Stamford	1/10	1/5½
Aylesbury	1/9	1/4½	Doncaster	1/11	1/6½	London—			Stevenage	1/10	1/5½
Aylsham	1/8	1/4	Dorchester	1/8½	1/4½	12m. radius	*2/0½	1/7½	Stockport	1/11	1/6½
Bagshot	1/9	1/4½	Dorking	1/9½	1/5	12-15m. radius	*2/0	1/7	Stockton-on-Tees	1/11	1/6½
Banbury	1/9	1/4½	Dover	1/9	1/4½	Long Eaton	1/11	1/6½	Stoke-on-Trent	1/11	1/6½
Barnsley	1/11	1/6½	Dovercourt	1/9	1/4½	Longton	1/11	1/6½	Stourbridge	1/11	1/6½
Barnstaple	1/9	1/4½	Driffield	1/9½	1/5	Loughborough	1/11	1/6½	Stourport	1/10½	1/5½
Barrow-in-Furness	1/11	1/6½	Droitwich	1/10½	1/5½	Louth	1/9½	1/5	Stowmarket	1/8	1/4
Barry	1/11	1/6½	Dudley	1/11	1/6½	Lowestoft	1/9	1/4½	Stratford-on-Avon	1/10	1/5½
Basingstoke	1/9	1/4½	Dunstable	1/9½	1/5	Luton	1/10½	1/5½	Stroud	1/10	1/5½
Bath	1/10½	1/5½	Durham City	1/11	1/6½	Macclesfield	1/10½	1/5½	Sunderland	1/11	1/6½
Batley	1/11	1/6½	Eastbourne	1/10	1/5½	Maidenhead	1/10	1/5½	Sutton Coldfield	1/11	1/6½
Beaconsfield	1/9½	1/5	E. Glam. (Mon. Val.)	1/11	1/6½	Maidstone	1/9½	1/5	Swaffham	1/7½	1/3½
Beccles	1/7½	1/3½	East Grinstead	1/9	1/4½	Malvern	1/9½	1/5	Swanage	1/9	1/4½
Bedford	1/10½	1/5½	Edenbridge	1/9	1/4½	Manchester	1/11	1/6½	Swansea	1/11	1/6½
Berkhamsted	1/9	1/4½	Ely	1/8	1/4	Manningtree	1/8	1/4	Swindon	1/9½	1/5
Berwick	1/10½	1/5½	Epping	1/11	1/6½	Mansfield	1/11	1/6½	Tamworth	1/10½	1/5½
Beverley	1/11	1/6½	Exeter	1/10½	1/5½	March	1/8	1/4	Taunton	1/9½	1/5
Bexhill-on-Sea	1/9½	1/5	Exmouth	1/9½	1/5	Margate	1/9	1/4½	Tenterden	1/9	1/4½
Bideford	1/9	1/4½	Fakenham	1/8	1/4	Market Harborough	1/10	1/5½	Thames Haven	1/11	1/6½
Biggleswade	1/9	1/4½	Falmouth	1/9½	1/5	Matlock	1/9½	1/5	Thetford	1/8½	1/4½
Billericay	1/8½	1/4½	Fareham	1/10	1/5½	Melton Constable	1/7½	1/3½	Thorpe Bay	1/10½	1/5½
Birchington	1/9	1/4½	Faversham	1/9	1/4½	Melton Mowbray	1/10	1/5½	Todmorden	1/11	1/6½
Birkenhead	‡§2/1	¶	Felixstowe	1/10	1/5½	Merthyr	1/11	1/6½	Tonbridge	1/9½	1/5
Birmingham	†§1/11	1/6½	Filey	1/9½	1/5	Middlesbrough	1/11	1/6½	Torquay	1/10½	1/5½
Bishop Auckland	1/11	1/6½	Fleetwood	1/11	1/6½	Middleton	1/11	1/6½	Totnes	1/9	1/4½
Bishop's Stortford	1/10	1/5½	Flint	1/11	1/6½	Middlewich	1/10½	1/5½	Trowbridge	1/8	1/4
Blackburn	1/11	1/6½	Folkestone	1/9	1/4½	Milford Haven	1/9½	1/5	Truro	1/8½	1/4½
Blackpool	1/11	1/6½	Frinton-on-Sea	1/9	1/4½	Morecambe	1/11	1/6½	Tunbridge Wells	1/9½	1/5
Blyth	1/11	1/6½	Frome	1/8	1/4	Morley	1/11	1/6½	Uppingham	1/10½	1/5½
Bognor Regis	1/9	1/4½	Gainsborough	1/10	1/5½	Mundesley	1/8	1/4	Uttoxeter	1/10	1/5½
Bolton	1/11	1/6½	Gateshead	1/11	1/6½	Nantwich	1/10½	1/5½	Wakefield	1/11	1/6½
Bournemouth	1/10	1/5½	Gillingham (Kent)	1/10	1/5½	Nelson	1/11	1/6½	Walsall	1/11	1/6½
Bracknell	1/9	1/4½	Glossop	1/11	1/6½	Newark-on-Trent	1/10½	1/5½	Walsden	1/11	1/6½
Bradford	1/11	1/6½	Gloucester	1/10½	1/5½	Newbury	1/9	1/4½	Walton-on-Naze	1/9	1/4½
Bradford-on-Avon	1/8	1/4	Godalming	1/9	1/4½	Newcastle-on-Tyne	1/11	1/6½	Ware	1/10½	1/5½
Braintree	1/9	1/4½	Goole	1/11	1/6½	Newcastle-u.-Lyme	1/11	1/6½	Warminster	1/8	1/4
Brentwood	1/10½	1/5½	Gosport	1/10½	1/5½	New Forest	1/9	1/4½	Warrington	1/11	1/6½
Bridgwater	1/9½	1/5	Grantham	1/10	1/5½	Newmarket	1/9	1/4½	Warwick	1/11	1/6½
Bridlington	1/10½	1/5½	Gravesend	1/10½	1/5½	Newport, Mon.	1/11	1/6½	Wellington R.D.	1/10½	1/5½
Brighouse	1/11	1/6½	Great Yarmouth	1/9	1/4½	Newport Pagnell	1/9	1/4½	Welwyn	1/10	1/5½
Brighton	1/10	1/5½	Grimsby	1/11	1/6½	Northampton	1/11	1/6½	Welwyn Gar. City	1/11	1/6½
Bristol	1/11	1/6½	Guildford	1/9	1/4½	Norwich	1/11	1/6½	Wells (Norfolk)	1/7½	1/3½
Broadstairs	1/9	1/4½	Guilsborough	1/9½	1/5	Nottingham	1/11	1/6½	West Bromwich	1/11	1/6½
Bromsgrove	1/10½	1/5½	Halifax	1/11	1/6½	Nuneaton	1/11	1/6½	Westcliff-on-Sea	1/10½	1/5½
Buckley	1/11	1/6½	Hanley	1/11	1/6½	Oakham	1/9½	1/5	Weston-super-Mare	1/10	1/5½
Bungay	1/7	1/3½	Harpenden	1/10	1/5½	Oldham	1/11	1/6½	Weybridge	1/10	1/5½
Burnham-on-Crouch	1/7½	1/3½	Harrogate	1/11	1/6½	Ormskirk	1/11	1/6½	Weymouth	1/9	1/4½
Burnley	1/11	1/6½	Hartlepools	1/11	1/6½	Oxford	1/10½	1/5½	Whitby	1/10	1/5½
Burslem	1/11	1/6½	Harwich	1/9	1/4½	Oxted	1/9½	1/5	Whitstable	1/9	1/4½
Burton-on-Trent	1/11	1/6½	Haslemere	1/9	1/4½	Paignton	1/10½	1/5½	Widnes	1/11	1/6½
Bury	1/11	1/6½	Hastings	1/9	1/4½	Peterborough	1/10½	1/5½	Wigan	1/11	1/6½
Bury St. Edmunds	1/8½	1/4½	Hatfield	1/10½	1/5½	Plymouth	1/11	1/6½	Wigton	1/9½	1/5
Buxton	1/10½	1/5½	Haywards Heath	1/9	1/4½	Pontefract	1/11	1/6½	Willington	1/11	1/6½
Byfleet	1/9½	1/5	Hednesford	1/10½	1/5½	Pontypridd	1/11	1/6½	Wilmslow	1/11	1/6½
Cambridge	1/11	1/6½	Hemel Hempstead	1/10	1/5½	Port Talbot	1/11	1/6½	Winchester	1/9½	1/5
Canterbury	1/9	1/4½	Henley-on-Thames	1/9	1/4½	Portsmouth	1/10½	1/5½	Windermere	1/9½	1/5
Cardiff	1/11	1/6½	Hereford	1/9	1/4½	Preston	1/11	1/6½	Windsor	1/10	1/5½
Carlisle	1/11	1/6½	Herne Bay	1/9	1/4½	Pulborough	1/9	1/4½	Wisbech	1/8½	1/4½
Carnforth	1/11	1/6½	Hertford	1/10½	1/5½	Ramsgate	1/9	1/4½	Witham	1/9	1/4½
Castleford	1/11	1/6½	Heysham	1/11	1/6½	Reading	1/10½	1/5½	Woking	1/9½	1/5
Caterham	1/8	1/4	Hitchin	1/10	1/5½	Redditch	1/10½	1/5½	Wokingham	1/9	1/4½
Chard	1/10	1/5½	Hoddesdon	1/10½	1/5½	Redhill	1/9½	1/5	Wolverhampton	1/11	1/6½
Chatham	1/10½	1/5½	Holt (Norfolk)	1/7½	1/3½	Ripon	1/9½	1/5	Woodbridge	1/8½	1/4½
Chelmsford	1/10	1/5½	Horley	1/9	1/4½	Rochdale	1/11	1/6½	Worcester	1/10½	1/5½
Cheltenham	1/10½	1/5½	Horsham	1/9	1/4½	Rochester	1/10	1/5½	Workington	1/9½	1/5
Chepstow	1/10	1/5½	Horwich	1/11	1/6½	Rugby	1/11	1/6½	Worksop	1/10½	1/5½
Chertsey	1/11	1/6½	Huddersfield	1/11	1/6½	St. Albans	1/10½	1/5½	Worthing	1/9	1/4½
Chester	1/11	1/6½	Hull	1/11	1/6½	St. Helens	1/11	1/6½	Wrexham	1/10½	1/5½
Chesterfield	1/11	1/6½	Hunstanton	1/8	1/4	St. Neots	1/8½	1/4½	Wroxham	1/8½	1/4½
Chichester	1/9	1/4½	Huntingdon	1/8½	1/4½	Saffron Walden	1/8	1/4	Wycombe	1/10	1/5½
Chorley	1/11	1/6½	Ilfracombe	1/9	1/4½	Salisbury City	1/8½	1/4½	Wymondham	1/8	1/4
Cirencester	1/8½	1/4½	Ingatestone	1/9½	1/5	Salisbury Plain	1/10	1/5½	Yeovil	1/9½	1/5
Clacton	1/9	1/4½	Ipswich	1/10½	1/5½	Sawbridgeworth	1/9½	1/5	York	1/11	1/ 6½
Cleveleys	1/11	1/6½									

* Painters ½d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/1½.

¶ Tradesman's Labourers, 1/7½. Navvies and General Labourers, 1/6½.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 116.

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery. At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for cartage should be obtained as the haulage question is difficult.

	£ s. d.
First Hard Stocks ..... per 1,000	4 5 6
Second Hard Stocks ..... "	3 18 6
Mild Stocks ..... "	3 5 6
Single Rough Stocks ..... "	2 19 6
Third Common Stocks ..... "	2 10 0

	King's Cross Station per 1,000	To sites in W.C. District per 1,000
2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	s. d.	£ s. d.
Pressed	51 9	58 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	78 3

White Midhurst Best selected (delivered London site) £ 5 10 0

Best blue Pressed Staffs. (London Stns.)	10 2 0
Do. Bullnose (London Stns.)	10 12 0
Blue Wire Cuts (London Stns.)	8 19 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.		£ s. d.
2½ in. 10 0 0	3 in.	12 0 0

GLAZED BRICKS. (London Stns.)

Best White Ivory and Salt Glazed Stretcher	28 0 0	D'ble Str'tch'rs D'ble Headers One side&two ends	36 10 0 33 10 0 37 10 0
Headers	27 10 0	Two sides&one end	38 10 0
Quoins, Bullnose and 4½ in. Flats	34 10 0	Splays and Squints	36 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

s. d.		s. d.
2" per yd. sup. 2 3	3" per yd. sup. ..	2 9
2½ " " 2 6	4" " " ..	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 9	3" per yd. sup. .. 2 6
2½ " "	2 1	4" " " .. 3 4

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 6
Size 12 x 9 x 2½ "	2 9
Size 12 x 9 x 3" "	3 3
Size 12 x 9 x 4" "	3 7

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered: Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 3 3½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station .. per ft cube	2 3
Delivered free on rail Nine Elms, S.R. "	3 1½

Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., ... per ft. cube	4 7
Do. do. delivered on road waggons as above stations ..... per ft. cube	4 7

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) .....per ft. super	5 6
6 in. rubbed two sides, ditto .... "	6 3
3 in. sawn two sides slabs (random sizes) ..... "	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... "	1 8½
1¼ in. to 2 in. ditto ..... "	1 4½

HARD YORK—

Delivered at any Goods Station, London.

Scrappled random blocks .....per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft.super	5 7½
6 in. rubbed two sides, ditto .... "	6 9
4 in. sawn two sides slabs (random sizes) ..... "	3 5
3 in. ditto ditto ..... "	2 8
2 in. self-faced random flags.....per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Small section cills and copings, 11s.

SAND.

Thames Ballast	9s. 6d. per yd.	delivered 2 miles radius Paddington.
Pit Ballast	9s. 0d. " "	
Pit Sand	11s. 6d. " "	
Washed Sand	13s. 0d. " "	
¼ in. Shingle	10s. 0d. " "	
¼ in. Broken Brick	15s. 6d. " "	
Pan Breeze	9s. 6d. " "	

CEMENT.

Best British Portland Cement. Standard Specification. delivered London Area. £ s. d.

6 ton loads and upwards site ..... per ton	2 9 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
6 ton loads and upwards site	2 15 6
1 ton to 6 tons site	2 18 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1s. 6d. per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30s. per ton extra on ordinary "Blue Circle" prices.	
"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement, in 6-ton lots ..	3 19 6
"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.	
"Snowcrete" White Portland Cement	10 5 0
"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 6 ton lots and upwards ..... per ton	3 9 6

Plus packages at current prices.

Super Cement (Waterproof), *bags extra* 3 19 6

NOTE.—Paper bags will be charged at the rate of 7s. nett per ton. Jute sacks charged 1s. 9d. nett each and 1s. 6d. nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks. £ s. d.

Roman cement	8 10 0	Keene's Cement, White	7 0 0
Parian Cement	7 0 0	" Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

SLATES.

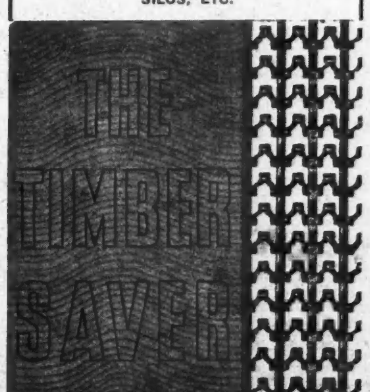
First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

HY-RIB

COMBINED CENTERING AND REINFORCEMENT

FOR SPEEDY, SIMPLE AND ECONOMICAL CONSTRUCTION OF CONCRETE FLOORS, ROOFS, WALLS, PARTITIONS, TANKS, CEILINGS, RESERVOIRS, TUNNELS, SILOS, ETC.



HY-RIB SALES

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Telephone: FROBISHER 8141

W 4.487

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 0 0	Sirapite, Coarse..	4 3 6
" White ..	4 7 6	" Finish ..	4 13 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	3 7 6	Grey STONE Lime Chalk Lime	2 17 6 2 17 6
Granite Chippings	1 15 0	Hair per cwt.	3 5 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons..... Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£5 6 6
Ditto hand-made ditto	6 7 6
Ornamental ditto	6 10 0
Hip and valley tiles (per dozen) { Hand-made	0 12 9
{ Machine-made	0 12 3

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	s. d.		Foot cube. £ s. d.
Dry English Wainscot Billets..	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak			0 12 6
Jap. Figured Oak			0 13 0
Jap. Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue ..... per cwt.			5 0 0
Liquid glue ..... per gallon			1 2 0

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE

Minimum.	£ s. d.	Maximum. £ s. d.
Scantlings in imported sizes, 2 in. by 3 in. to 4 in. by 11 in.	43 10 0	53 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1¼ in. by 9 in. }	67 10 0

	Per square. s. d.
1 in. plain edge flooring	53 0
1¼ in. ditto	66 6
1 in. tongued and grooved	53 0
1¼ in. ditto	66 6

MATCHING.

	Per square. s. d.
¾ in.	37 6
¼ in.	42 0
1 in.	55 0

PLUMBERS' BRASS WORK.

Delivered in London.

To pass Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
37/- 58/6 per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
52/3 72/- per doz.

S.D. STOP COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/- 59/- 97/- 228/- 324/- 540/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
53/- 84/- 136/- 252/- 405/- 664/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
9/11 11/- 17/6 29/3 49/6 71/- per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
45/- 73/- 120/- 210/- 297/- per doz.

CAPS AND SCREWS.

1½ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
11/9 14/5 21/6 37/9 54/- 59/6 per doz.

BRASS SLEEVES.

1½ in. 2 in. 3 in. 3½ in. 4 in.
10/9 13/6 25/- 37/- 46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

1½ in. 1½ in. 2 in. 3 in.
8 lb. Lead P... 26/- 34/8 48/3 84/- per doz.
8 lb. Lead S... 32/6 41/6 60/- 108/- "

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(*contd.*)

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£23 10 0
Plain Compound Girders	26 0 0
Stanchions	28 10 0
In Roof Work	33 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	23 0 0	⅝ in. to ¼ in.	21 10 0
⅜ in.	22 0 0	½ in. to 2½ in.	21 0 0

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½ % gross.

10/17

	Tubes. ⅛"/6" %	Tubulars. ¼"/6" %	and 19/24 %	Flanges. ½"/2" %	2½"/6" %
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv.lightweight	40½	—	38½	39½	48½
Galv.heavyweight	31	31	31	29½	41

Tubes and tubulars sizes ⅛"/⅜" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/5½	1/2½	4½d.
3½ in.	1/7	1/4	4½d.
4 in.	1/7	1/6	6½d.
4½ in.	1/8½	1/8½	7½d.
5 in.	2/0½	2/0	9d.

O.C. GUTTERS.

3 in.	1/10½	1/7½	5d.
3½ in.	2/1½	1/7½	6½d.
4 in.	2/1½	1/8½	7½d.
4½ in.	2/2½	1/11½	8½d.
5 in.	2/8½	2/3	10½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe	Bends. Stock angles.	Branches
2 in.	2/2½	1/5½	2/2
2½ in.	2/3½	1/8½	2/7½
3 in.	2/8½	2/1½	3/2
3½ in.	3/2½	2/6½	3/7½
4 in.	3/8½	3/0½	4/5

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots. 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches
2 in.	3/9½	2/7½	3/2
2½ in.	4/5	2/10½	3/11½
3 in.	4/9	3/2	4/8½
3½ in.	4/10½	3/11½	5/5½
4 in.	5/3½	4/5	6/3½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts.	5/5	6/3	9/11
cwt. qr. lbs.			
4 in. 1 1 20	7/11	7/1	12/6
5 in. 1 2 22	9/7	12/9	19/3
6 in. 2 0 6	11/5	14/8	25/6

Gaskin, 75/- per cwt.

	Per ton basis in London. £ s. d
IRON.—Staffordshire Crown, Merchant quality	18 7 (
IRON.—Staffordshire Marked Bars	19 7 (
Mild Steel Bars	19 15 0
Mild Steel Hoops	21 10 0

	Ex Merchant's Stock per ton (two-ton lots)
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	24 17 6
24 gauge	25 2 6
26 gauge	25 17 6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.	
20 gauge	27 0 0
24 gauge	27 10 0
26 gauge	28 15 0
Galvanised Flat Sheets, C.R. and C.A.—	
20 gauge	28 10 0
24 gauge	29 0 0
26 gauge	30 5 0

	Per ton. £ s. d.
Cut Nails, 3 in. and up	28 10 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil (5 galls.) .. per gallon	0 5 5
Boiled Linseed Oil (5 galls.) .. „	0 5 8
Turpentine (5 galls.) „	0 8 9
Genuine Ground English White Lead, per cwt.	3 8 3
Genuine White Lead Paint, 14 lb. tins free, per cwt.	4 11 0
Genuine Red Lead, „	2 14 0
Linseed Oil Putty „	1 1 3
Size. XD quality ... ...

CURRENT AND PROPOSED NEW BUILDINGS

Altrincham.—T.C. approved: Completion of five houses for Syddall & Baines (Sale), Ltd.

Baguley. — Manchester Corporation Health Committee propose modernisation of sanitary annexes at sanatorium, at £1,800.

Bangor, N. Wales.—Ivor Davies (F.), Yorkshire-chbrs., 55, High-st., architect, prepared plans for permanent church on Maes Geirchen estate for C.M. Association.

Barking. — T.C. propose alterations to central clinic, at £200.

Batley. — E.C. propose alterations to Healey junior school and provision of day nursery.

Beaumaris. — Board of Governors of Blue Coat Hospital School have acquired property known as "Bryn" for conversion into a school.

Birkenhead. — T.C. to lay electricity supply to two hostels, at £2,900.

Blackpool.—T.C. approved: Additions to brewery, for Catterall & Swarbrick's Brewery, Ltd.

Bury.—T.C. propose provision of day nurseries.

Chorley.—T.C. propose day nurseries.

Coventry. — E.C. propose: Remand home; camp schools.—Watch Committee propose temporary buildings for police reinforcements, at £2,725. Plans by D. E. R. Gibson, City Architect.

Crumpsall. — Manchester Corporation Health Committee propose installation of steam-heating apparatus at "C" Block at Park House hospital, at £3,350.

Darlington.—E.C. to spend £289 on establishment of nursery class at Borough-rd. school.

Darlington.—G. W. Wimpey, Ltd., propose establishing contractors' depot in Haughton-rd.—B.E. prepared plans for adaptation of premises in covered market as emergency feeding centre, for T.C.—T.C. received sanction to borrow £2,111 in connection with water-main extensions.

Dewsbury.—T.C. propose conversion of "Northlands House" into war time nursery.

Dewsbury.—T.C. approved: Store for H. Day & Sons; new roof for J. W. Horsfield & Co., Ltd.

Doncaster.—E.C. propose seven whole-time nurseries, additional nursery classes at various schools, and eight play centres.

Felling-on-Tyne. — Plans approved for rebuilding of shop and bakery in High-st. for Emerson Lowes.

Gateshead. — British Ropes, Ltd., to erect extensions.

Golborne.—U.D.C. approved: 84 houses and 64 flats off Newton-rd. E. H. Allsford (A.), Martins Bank-chbrs., 71, Bridge-st., Warrington, architect.

Hindley.—U.D.C. propose buildings on sites in Princess-st., Liverpool-rd., for day nurseries.

Huntingdon.—R.D.C. propose 10 houses, at £5,700.

Jarrow.—B.E. prepared plans for alterations to latrines at Central- and Croft-ter. schools for E.C.—Plans approved for conveniences at Jarrow Metal Industries, Ltd.

Macclesfield.—R.D.C. approved: Additions to premises for nursery school, New-rd., Butley Ward, Prestbury, for Mrs. B. M. Lebb.

Manchester.—T.C. approved: Works additions, Cruickshank and Seward (F.), 16, Princess-st., architects; rebuilding offices and works, E. A. Newton (L.), Rutherford-chbrs., Bow-la., Princess-st., architect; houses, Holmewood-rd. and Shandon-av., Northenden, for Marsden Building Society, 2, Russell-st., Nelson, Lancs; Additions to garage, Ashton New-rd. H. Rhodes (L.), 90, Deansgate, architect; conversion of premises into offices for Commercial Union Assurance Co., Ltd., 32, Brown-st.

Middlesbrough.—T.C. to spend £600 on alterations and improvements to public conveniences in Corporation-rd. Plans by C. Gorman, B.E.—United Automobile Services, Ltd., Grange-rd., Darlington, to carry out alterations to offices at Newport-rd., 'bus stand, and alterations and additions to premises in Park-st.—The Tees-side Bridge and Engineering Co., Ltd., proposes women's rest centre.

Middleton.—E.C. propose adaptation of Labour hall, Milton-st., for clinic, also St. Gabriel's Church Institute.—Premises to be acquired at Rhodes for a clinic.

Middleton.—T.C. propose provision of day nursery.

Morley.—T.C. approved: Power house for H. Hardy, Ltd.; additions to works.

Rothwell (Yorks).—U.D.C. propose day nursery. Plans by H. Hillier, S.

Runcorn.—U.D.C. propose adaptation of isolation hospital for day nursery.

Salford.—T.C. approve: Additions to works, Halliday and Agate (FF.), 14, John Dalton-st., Manchester architects.

Sheffield.—T.C. approved: Saleshop, Scott-rd. and Kirton-rd, for Brightside and Carbrook Co-operative Society, Ltd., Exchange-arcade.

Stockton-on-Tees.—E.C. propose adapting hutments to provide further accommodation at Frederick Nattrass school.—E.C. to establish nursery classes at three schools.

Stratford-on-Avon. — Joint Hospital Board propose additions to Isolation hospital, at £1,700.

Stretford.—E.C. propose adaptation of "Clyne House," Chester-rd. for educational purposes.

Swinton and Pendlebury.—T.C. propose day nurseries.

Wakefield.—T.C. approved: Additions to works, for Slater and Crabtree, Ltd., J. Percy Firth, Chancery-chbrs., Barstow-sq., architect; additions to works for J. Redgwick and Sons, Ltd.

Wandsworth. — M.H. approved repairs to small assembly hall at Town Hall.

Wellingborough.—R.D.C. to erect seven flat-roofed houses incorporating shelters. H. M. Sheffield, S.

West Riding.—C.C. to erect pre-fabricated hut at Skipton for use as nursery school.

Withington.—Manchester Corporation Health Committee propose: Improvement of nurses' kitchen in No. 1 Nurses' Home; additional sanitary annexe in No. 2 Nurses' Home and improvements to main kitchen equipment at hospital, Nell-la., at £5,895.

Wolverhampton. — T.C. approved: Workshop, Jackson and Edmonds (FF.), 16, Bennets-hill, Birmingham, architects.

BIG BEN
IN PEACE: "Big Ben" Tubular Steel Scaffolding was acknowledged to be in the forefront as the most economical medium for scaffolding purposes.
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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Aintree.—Erection of buildings for temporary schools on site of St. Giles' church hall, for Lancashire E.C. A. Evans, County Architect, County Offices, Preston: *Tysons (Contractors), Ltd., Dryden-st., Liverpool.

Ashton-under-Lyne. — Part construction of Cranbourne-rd. and part construction of Smallshaw-la., for T.C. A. T. Kemp, B.S.: *Andrew Hobson & Sons, Church-st., Stalybridge.

Barmouth.—Internal painting work at elementary schools, for Merionethshire E.C. Norman L. Jones, County Architect, County Offices, Dolgelley: *G. W. Price, Barmouth.

Bromsgrove.—Construction of about 27 yds. of 6-in. stoneware pipe sewer with one manhole, about 140 yds. of 6-in. and 64 yds. of 4-in. stoneware combined drain with six disconnecting chambers, and connecting existing drains from 28 properties in Alfreda-ave., Wythall, for R.D.C. S. A. Price, Building S.:—

C. A. Horton, Ltd., Brierley Hill ...	£764
H. B. Blaney, Wythall	445
Matthews & Baker, Birmingham ...	440
William Weaver, Ltd., The Strand, Bromsgrove	406
R. E. Griffin, Catshill	374
*George Linacre & Sons, Newtown-row, Birmingham	370

Droitwich. — British Restaurant, for T.C. R. E. Hulse, B.S.: *Ashmore Contracts, Ltd., Gloucester, 10 per cent. on labour. (In lieu of tender withdrawn.)

Ealing.—Erection of West Twyford temporary school, for T.C.: *Perrys (Ealing), Ltd., £1,468.

Grange-over-Sands.—Conversion of "The Lingmell," The Esplanade: *M. Blakemore, Ltd., Allithwaite-rd., Grange-over-Sands.

London (Air Ministry).—Contracts placed to the value of £500 or over for the week ended January 17:—

Civil engineering work: M. J. Gleeson, Ltd., N. Cheam.

General maintenance work: Nathaniel Grieve, Edinburgh; G. E. Wallis & Sons, Ltd., Truro; R. A. MacKibbin, Douglas (I.O.M.).

London (War Dept.). — Following are contracts placed by War Dept. at January 17:—

Cumberland: Miscellaneous works, J. Miller & Sons, 15, London-rd., Carlisle.

Yorks: Hutting (erection), Henry Field & Son, Barnsley-rd., Stairfoot, Barnsley.

Lincs: Hutting (erection), B. Pumfrey, Ltd., Carlisle-st., Gainsborough.

Derbyshire: Building work, Adam Eastwood & Sons, Ltd., Burns-la., Warsop, Notts.

Norfolk: Miscellaneous works, Bury St. Edmunds Development Co., Ltd., Vinery-rd., Bury St. Edmunds, Suffolk.

Suffolk: Miscellaneous work, Metropolitan Railway Country Estates, Ltd., Baker-st., London, W.1.

Radnorshire: Miscellaneous works, Gower Morris, Severn Saw Mills, Llanidloes, Montgomeryshire.

Glamorganshire: Building work, A. Light, Ltd., 603, Cowbridge-rd., Cardiff.

Dorset : Hutting (erection), Martin & Saunders, Ltd., 18, The Grove, Dorchester.

Devon : Miscellaneous works, F. Burley & Sons, Mary Tavy, nr. Tavistock, Devon.

Co. Tyrone : Hutting (erection), Benson Bros., Cookstown, Co. Tyrone.

Co. Tyrone : Miscellaneous work, R. J. Campbell (London), Ltd., Scottish Provident-bldng., Belfast.

London (M.W.B.).—For (a) sinking a borehole and (b) building lavatory accommodation, for Metropolitan Water Board : (a) *Le Grand, Sutcliff & Gell, Ltd., £2,327 ; (b) *R. Durtnell & Sons, Ltd., £191.

Macclesfield.—(1) Repairs to 10 houses at Adlington and Poynton, (2) repair of three farmhouses at Rainow, for R.D.C. J. Burgess, S. : (1) *P. Clayton & Sons, 55, Dickens-la. ; *G. Shrigley, London-rd. ; *L. Wainwright, Wensley Clumber-rd. ; (2) *F. Wain, Rainow. (Rest of Poynton.)

Manchester.—Additions to works. J. H. Sellers & Son (F.), 78, King-st., architects : *L. Brown & Sons, Ltd., Station-rd., Wilmslow, Ches.

Middlesbrough.—Demolition of houses, for T.C. : *D. Rea, 38, Wood-ter., Jarrow-on-Tyne. (£5 per house.)

Southgate.—Removal of tram track at Green Lanes and reinstatement of surface : *Wm. Griffiths & Co., Ltd., £9,540. (Subject to approval of Middlesex C.C. and M. of T.)

Spilsby. — Reroofing of two council houses, for R.D.C. W. Bailey, S. : *W. J. Vampley, Friskney, £144.

Wolverhampton. — Office extensions, Lower Horseley Fields : *A. M. Griffiths & Sons, Ltd., Thomas-st., Wolverhampton.

BRITISH RESTAURANTS AND CANTEENS

Ashton-in-Makerfield.—U.D.C. applying to M.F. for sanction to erection of prefabricated buildings on selected sites for B.R. Plans by A. K. Dennis, S.

Billingham-on-Tees.—J. H. Hill, S., prepared plans for B.R. at school premises.

Bolton. — T.C. approved : Canteen for North End Spinning Co., Ltd. ; canteen for William Heaton & Sons, Ltd., Lostock-la.

Durham.—City Council to erect B.R. in Bk. Silver-st. Plans by W. J. Greene, City E.

Farnham.—U.D.C. approved : Canteen for Crosby & Co.

Larkhall.—Plans in hand for B.R., the architect being William Watt, Albert-st., Motherwell.

Loftus.—U.D.C. to convert garage into B.R. Plans by S.

Nantwich. — U.D.C. propose conversion of Manor-rd church schools for B.R.

Newmains.—Plans in hand for canteen, the architects being Cowie & Miller, 45, Cleland-av., Wishaw.

North Riding.—E.C. approved scheme for three cooking depots. Plans by J. White, County Architect, County Hall, Northallerton.

Rothwell, Yorks.—U.D.C. propose adaptation of premises in Wood-st. for B.R.

Ryton-on-Tyne.—Canteen to be built at Greenside Colliery to plans by W. Dixon & Son, 1, Collingwood-st., Newcastle-on-Tyne.

Salford. — T.C. propose to erect three "Nissen" hutments for B.R.

Seaton Valley.—U.D.C. to set up communal feeding centres at Seghill, Cramlington and Shiremoor. Plans by S. E. Burgess, S.

Sedgefield. — R.D.C. to provide four B.R. Plans by J. Tarran, S.

Shropshire.—E.C. propose canteens at 37 schools.

Spalding. — U.D.C. propose conversion of premises at Sheep-st. for B.R.

Stockton-on-Tees.—Cooking depot to be provided by M. of F.

Stockton-on-Tees. — F. Kidd & Sons (Engineers), Ltd., to erect canteen, lavatories and store.

Sunderland.—Sunderland Forge, Ltd., propose canteen. Plans by W. and T. R. Milburn, 17, Fawcett-st., Sunderland.

Urmston. — U.D.C. to erect B.R. on Trafford Park estate.

West Yorkshire.—Miners' Welfare Commission propose canteens at pitheads at 24 collieries in West Yorkshire coalfields.

Whitefield. — U.D.C. propose to adapt Congregational church schools, Besses-o'-th'-Barns, for B.R.

Whitley and Monkseaton.—U.D.C. propose B.R. at Monkseaton and Seaton Sluice. Plans by A. J. Rousell, U.D.C. S.

Wigan. — T.C. approved : Canteen for Lancashire Cotton Corporation, Ltd. ; conversion of premises to works canteen for Clarington Forge.

Worcestershire. — E.C. propose school canteens.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

E. E. YARNELL, LTD. (371,681). Regd. January 5. 94, Rutherglen-avenue, Coventry. Builders, contractors, etc. Nom. cap. £1,000. Permt. gov. dir. : E. E. Yarnell, 379, Tile Hill-lane, Coventry.

DOWSON SAND AND GRAVEL CO., LTD. (371,799). Regd. January 9. 1, Bank-passage, Stafford. Nom. cap. £5,000. Dirs. : J. Dowling, 57, Walley-drive, Basford, Stoke-on-Trent ; E. Hodgkinson, Jun., 53, Bloom-street, Edgeley, Stockport.

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